

2019 - SUSTAINABLE INDUSTRIAL PROCESSING SUMMIT & EXHIBITION

23-27 October 2019, Coral Beach Resort, Paphos, Cyprus



ANGELL
INTERNATIONAL SYMPOSIUM
on Molten Salt, Ionic
and Glass-forming Liquids



FLINK
INTERNATIONAL SYMPOSIUM
on Sustainable
Production of Ferro-alloys



KOBE
INTERNATIONAL SYMPOSIUM
on Science of Innovative and
Sustainable Alloys and Magnets



KOZLOV
INTERNATIONAL SYMPOSIUM
on Sustainable Materials
Recycling Processes and Products



MCNEIL
INTERNATIONAL SYMPOSIUM
on Laws and their Applications
for Sustainable Development



PARAMESWARAN
INTERNATIONAL SYMPOSIUM
on Sustainable Mining
and Smelting



SCHREFLER
INTERNATIONAL SYMPOSIUM
on Geomechanics and Applications
for Sustainable Development



USUI
INTERNATIONAL SYMPOSIUM
on Advanced Sustainable
Iron and Steel Making



TRESSAUD
INTERNATIONAL SYMPOSIUM
on Solid State Chemistry for
Applications & Sustainable Development



VAYENAS
INTERNATIONAL SYMPOSIUM
on Physical Chemistry and its
applications for sustainable development



PROGRAM

Featuring 6 Nobel Laureates:



Dan Shechtman
2011 - Chemistry



Kurt Wüthrich
2002 - Chemistry



Ferid Murad
1998 - Medicine



Rudy A. Marcus
1992 - Chemistry



Yuan T. Lee
1986 - Chemistry



Klaus V. Klitzing
1985 - Physics

Special Address:

Donna J. Nelson
2016 President
American Chemical
Society



Subra Suresh
President, NTU
Singapore
former Director
NSF, USA



FLOGEN
STAR OUTREACH



Summit WebSite: www.flogen.org/sips2019 Contact: Dr Florian Kongoli (fkongoli@flogen.org)
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Leadership Team



Dr. Florian Kongoli

SIPS President

Chairman

FLOGEN STARS OUTREACH.

Canada

Symposia Committees



Florian Kongoli

FLOGEN Technologies
Canada



Fernand Marquis

San Diego State U.
USA



Marcelle G-Escard

POLYTECH,
CNRS/IUSTI
France



Lijie Guo
BGRIMM

Technology Group
China



Haruhiko Inufasa

CEO, TIMA/Gifu
University
Japan



Yoshihito Kawamura

Kumamoto University
Japan



Katerina Aifantis

University of Florida
USA



Elias Aifantis

Aristotle U. of
Thessaloniki
Greece



Miguel A. Alario Franco
Complutense U. of Madrid, Spain



Shumskiy Viktor Alexandrovich
Science of Metallurgy Kazakhstan



Christian Amatore
CNRS&PSL, French Acad. of Scie. and Xiamen U. France



Juergen Antrekowitsch
Christian Doppler Laboratory Austria



Paulo Assis
U. of Ouro Preto / REDEMAT Brazil



Greg Baiden
Penguin Automated Systems Canada



Mariana Calin
IFW Dresden Germany



Claudio Capiglia
Recruit R&D Japan



David Carey
Bear Metallurgical Company USA



Carlos Cavalca
Dupont USA



Andrew Chan
U. of Tasmania Australia



Hong-Yuan Chen
Nanjing U. China



Nikoloz Chikhradze
G. Tsulukidze Mining Inst. Georgia



Marcos de Campos
UFF - Federal Fluminense U. Brazil



Jose A. de Castro
UFF - Federal Fluminense U. Brazil



Antonio de Lucas Consuegra
U. of Castilla La Mancha Spain



Harold Dodds
U. of Tennessee
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Jean-Marie Dubois
Inst. Jean Lamour
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UFRGS
Brazil



David Dzombak
Carnegie Mellon
U.(CMU) USA



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Cyprus



Jean Etourneau
U. of Bordeaux
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Michael Fardis
U. of Patras
Greece



Rasmus Fehrmann
DTU Chemistry
Denmark



Athan Fox
Aurelius Environmental
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Dariusz Gawin
Lodz U. of Technology
Poland



Hasan Giray
Eti Krom
Turkey



**Mery-Cecilia
Gomez-Marroquin**
National U. of
Engineering Peru



**Dyubanov V.
Grigorievich**
Baykov Metallurgy &
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Russian



Dimitrios Grigoriou
U. of Patras
Greece



Yoshihisa Hayakawa
Rikkyo U.
Japan



Wei-Hua Huang
Wuhan U.
China



**Leontyev Leopold
Igoryevich**
Russian Academy of
Sciences



Soteris Kalogirou
Cyprus U. of Technology
Cyprus



Nasser Khalili
U. of New South
Wales
Australia



Shuji Kitayama
Kobe Steel
Japan



Sergey Kolyvanov
OOO TFZ
Russian



Hirokazu Konishi
Osaka U.
Japan



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U. of Cambridge
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Lyesse Laloui
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Angeliki Lemonidou
Aristotle U. of
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Pyramid Polymers LLC
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LANG LIU
XI'AN U. of Science
and Technology
China



Alois Loidl
Inst. of Physics, U. of
Augsburg
Germany



Douglas MacFarlane
Monash U.
Australia



Yuanzheng Yue
Aalborg U.
Denmark



Rodrigo Martins
EURASC & IUMRS
Portugal



Manfred Mauntz
cmc Instruments
GmbH, Germany



Stephen Miller
U. of Florida
USA



Akinori Murao
JFE Steel Corporation
Japan



Stylianos G. Neophytides
FORTH ICE-HT
Greece



Seiji Nomura
Nippon Steel Corp.
Japan



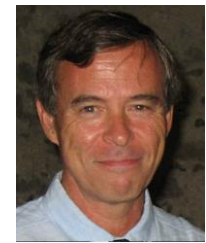
Takahiko Okura
Ehime U.
Japan



Keith Oliver
Peters & Peters
UK



Hideki Ono
U. of Toyama
Japan



Manuel Pastor
U. Politécnica de
Madrid Spain



Francesco Pesavento
U. of Padova
Italy



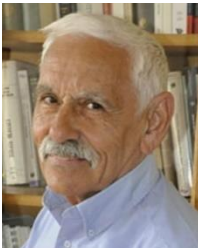
Kenneth Poepfelmeier
Northwestern U.
USA



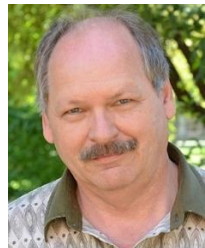
Mary Poulton
U. of Arizona
USA



Tetiana Prikhna
Inst. for Superhard
Materials Ukraine



Bernard Raveau
U. of Caen
France



Ranko Richert
Arizona State U.
USA



Yuriy Roman
Massachusetts Inst. of
Technology USA



Kristina Rozman
Jozef Stefan Inst.
Slovenia



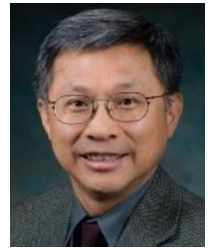
Lorenzo Sanavia
U. of Padova
Italy



Henrik Saxen
Abo Akademi U.
Finland



Kazuhiro Seto
JFE Steel Corporation
Japan



Donald Shih
Kumamoto U.
Japan



Yuichi Shimakawa
Kyoto U.
Japan



**Ponisseril
Somasundaran**
Columbia U.
USA



Erivelto Souza
Federal U. of São
João Del Rei
Brazil



Igor Startsev
VNIITSvetmet
Kazakhstan



Michael Stoukides
Aristotle U.
Greece



Mark Sullivan
Massachusetts Inst. of
Technology USA



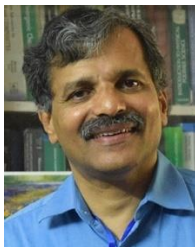
Johan Svensson
Vargon Alloys AB
Sweden



Mikio Takano
Okayama/Kyoto
Japan



Jun-ichi Tani
Nippon Steel Corp.
Japan



Sabu Thomas
Mahatma Gandhi U.
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Tamer Turna
TES Energy
Consulting Turkey



Philippe Vernoux
U. LYON 1
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Xenophon Verykios
U. of Patras
Greece



**Tarasov Andrey
Vladimirovich**
Gintsvetmet Inst.
Russian



Zhi Wang
Dongying Fangyuan
China



**Masayoshi
Watanabe**
Yokohama National
U. Japan



Lothar Wondraczek
Friedrich Schiller U.
Jena
Germany



Ioannis Yentekakis
Technical U. of Crete
Greece



**Toshikazu
Yoshikawa**
Louis Pasteur Center
for Med. Res. Japan



**Masahiro
Yoshizawa-Fujita**
Sophia U.
Japan

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Welcome Message

2019 STARS:



Prof. Austen **Angell**



Bo **Flink**



Prof. Spomenka **Kobe**



Prof. Pavel **Kozlov**



Adv Malcolm **McNeil**



Dr. Krishna **Parameswaran**



Prof. Bernhard **Schrefler**



Prof. Tateo **Usui**



Prof. Alain **Tressaud**



Prof. Costas **Vayenas**

Welcome to the 2019 Sustainable Industrial Processing Summit and Exhibition. Following the rich tradition of previous years, the summit covers 3 sustainability pillars: (1) Science, Technology & Industry, (2) Governance & Management and (3) Education & Civil Society.

This time, the summit honors the 2019 STARS of sustainable science, technology, and innovation. In alphabetical order, they are:

- Prof. Austen **Angell** - 2019 honoree with [Angell International Symposium](#) on Molten Salt, Ionic & Glass-forming Liquids: Processing and Sustainability
- Bo **Flink** - 2019 honoree with [Flink International Symposium](#) on Sustainable Production of Ferro-alloys
- Prof. Spomenka **Kobe** - 2019 honoree with [Kobe International Symposium](#) on Science of Innovative and Sustainable Alloys and Magnets (SISAM)
- Prof. Pavel **Kozlov** - 2019 honoree with [Kozlov International Symposium](#) on Sustainable Materials Recycling Processes and Products
- Adv Malcolm **McNeil** - 2019 honoree with [McNeil International Symposium](#) on Laws and their Applications for Sustainable Development
- Dr. Krishna **Parameswaran** - 2019 honoree with [Parameswaran International Symposium](#) on Sustainable Mining and Smelting
- Prof. Bernhard **Schrefler** - 2019 honoree with [Schrefler International Symposium](#) on Geomechanics and Applications for Sustainable Development
- Prof. Tateo **Usui** - 2019 honoree with [Usui International Symposium](#) on Advanced Sustainable Iron and Steel Making
- Prof. Alain **Tressaud** - 2019 honoree with [Tressaud International Symposium](#) on Solid State Chemistry for Applications and Sustainable Development
- Prof. Costas **Vayenas** - 2019 honoree with [Vayenas International Symposium](#) on Physical Chemistry and its applications for sustainable development

The honorees cover areas of sciences that may look distinct, but are mutually related and share sustainability as a common thread.

The summit simultaneously incorporates numerous International Symposia covering the fields of: iron and steel making; electrochemistry; molten salt and ionic liquids; advanced materials; advanced manufacturing; advanced technologies; aluminum; batteries; bio-extraction; cement; coal; coatings; composites; ceramics; ecosystems; education; energy production; environment; ferro-alloys; mathematics; metallic systems; metals and alloys; minerals; mining; multiscale materials; nanomaterials; non-ferrous smelting and hydro/electrochemical processing; quasi-crystals; rare earth and platinum group metals; recycling; and rotary kiln operations. The topics within each symposium span across scientific, technological, environmental, health, legal, management, financial, policy, taxation, social, and pedagogy issues.

We wish you a successful meeting, and please enjoy our special VIP lectures from our 6 Nobel Prize winners:



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Inspiring events with
Prof. Dan Shechtman
**Technological Entrepreneurship
Key to World Prosperity & Peace**

Prof. Dan Shechtman
2011 Nobel Laureate

23-27 Oct. 2019, Coral Beach Resort, Paphos, Cyprus



FLOGEN
STAR OUTREACH

Inspiring events with
Prof. Ferid Murad
**Discovery of Nitric Oxide and Cyclic GMP
in Cell Signaling and Drug Development**

Prof. Ferid Murad
1998 Nobel Laureate

23-27 Oct. 2019, Coral Beach Resort, Paphos, Cyprus



FLOGEN
STAR OUTREACH

Inspiring events with
Prof. Rudy A. Marcus
**Adventures in Electron Transfer
Reactions and Applications**

Prof. Rudy A. Marcus
1992 Nobel Laureate

23-27 Oct. 2019, Coral Beach Resort, Paphos, Cyprus



Prof. Yuan T. Lee
1988 Nobel Laureate

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Inspiring events with
Prof. Yuan T. Lee

Challenges and Opportunities for a Sustainable Planet

23-27 Oct. 2019, Coral Beach Resort, Paphos, Cyprus



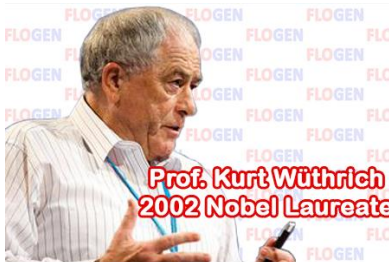
Prof. Klaus von Klitzing
1985 Nobel Laureate

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Inspiring events with
Prof. Klaus von Klitzing

How my Nobel Prize Contributed to a New Kilogram in 2019

23-27 Oct. 2019, Coral Beach Resort, Paphos, Cyprus



Prof. Kurt Wüthrich
2002 Nobel Laureate

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Inspiring events with
Prof. Kurt Wüthrich

Basic Scientific Research and the Quality of Life

23-27 Oct. 2019, Coral Beach Resort, Paphos, Cyprus

Dr. Florian Kongoli
SIPS President
Chairman
FLOGEN Stars Outreach
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Calendar of Events

SUMMIT REGISTRATION - AKAMAS FOYER											
WELCOMING INFORMAL DINNER & ENTERTAINMENT - BEACH DECK											
WED 23 OCT 2019	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8	Room 9	Room 11	
ROOM	Ambrosia A Restaurant Floor	Leids Mezzanine Floor	Akamas C Ground Floor	Avegas Mezzanine Floor	Zeus Mezzanine Floor	Hermes Mezzanine Floor	Albena Restaurant Floor	Ambrosia B Restaurant Floor	Aphrodite A Ground Floor	Aphrodite B Ground Floor	
FLOOR	Restaurant Floor	Mezzanine Floor	Ground Floor	Mezzanine Floor	Mezzanine Floor	Mezzanine Floor	Mezzanine Floor	Restaurant Floor	Ground Floor	Mezzanine Floor	
SUMMIT PLenary - AKAMAS BALL ROOM (A+B)											
COFFEE BREAK/POSTERS/EXHIBITION - AKAMAS FOYER											
8:15-10:30	ANGELL 1	Manufacturing 1	KOBE 1	Magnesium 1	OXIDATIVE 1	MONEIL 1	SCHREFLER 1	USJII 1	TRESSAUD 1	WAYNAS 1	Energy 1
10:30-11:20											
11:20-13:00	ANGELL 2	Manufacturing 2	KOBE 2	Magnesium 2	OXIDATIVE 2	MONEIL 2	SCHREFLER 2	USJII 2	TRESSAUD 2	WAYNAS 2	Energy 2
13:00-14:00											
14:00-15:40	ANGELL 3	Adv. Materials 1	KOBE 3	Magnesium 3	OXIDATIVE 3	MONEIL 3	SCHREFLER 3	USJII 3	TRESSAUD 3	WAYNAS 3	Energy 3
15:40-15:55											
15:55-17:10	ANGELL 4	Adv. Materials 2	KOBE 4	Magnesium 4	OXIDATIVE 4	MONEIL 4	SCHREFLER 4	USJII 4	TRESSAUD 4	WAYNAS 4	Energy 4
17:35-17:40											
17:40-18:30											
18:30-23:00											
THEME BUFFET DINNER & SHOW - LIMANI AMPHITHEATRE/TAVERNA											
SUMMIT PLenary - AKAMAS BALL ROOM (A+B)											
COFFEE BREAK/POSTERS/EXHIBITION - AKAMAS FOYER											
8:15-10:30	ANGELL 5	Adv. Materials 3	KOBE 5	Magnesium 5	FLINK 1	MONEIL 5	SCHREFLER 5	USJII 5	TRESSAUD 5	WAYNAS 5	Battery 1
10:30-11:20											
11:20-13:00	ANGELL 6	Adv. Materials 4	KOBE 6	Magnesium 6	FLINK 2	MONEIL 6	SCHREFLER 6	USJII 6	TRESSAUD 6	WAYNAS 6	Battery 2
13:00-14:00											
14:00-15:40	ANGELL 7	Adv. Materials 5	KOBE 7	Magnesium 7	FLINK 3	MONEIL 7	SCHREFLER 7	USJII 7	TRESSAUD 7	WAYNAS 7	Battery 3
15:40-15:55											
15:55-17:10	ANGELL 8	Adv. Materials 6	KOBE 8	Magnesium 8	FLINK 4	MONEIL 8	SCHREFLER 8	USJII 8	TRESSAUD 8	WAYNAS 8	Battery 4
17:35-17:40											
17:40-18:30											
18:30-23:00											
GALA DINNER/AWARDS CEREMONY/SHOW - AKAMAS BALLROOM (A+B)											
SUMMIT PLenary - AKAMAS BALL ROOM (A+B)											
COFFEE BREAK/POSTERS/EXHIBITION - AKAMAS FOYER											
10:30-11:20	ANGELL 9	Adv. Materials 7	KOBE 9	KOZLOV 1	PARAMESWARAN 1	Mathematics 1	SCHREFLER 9	USJII 9	TRESSAUD 9	WAYNAS 9	Battery 5
11:20-13:00											
13:00-14:00	ANGELL 10	Adv. Materials 8	KOBE 10	KOZLOV 2	PARAMESWARAN 2	Mathematics 2	SCHREFLER 10	USJII 10	TRESSAUD 10	WAYNAS 10	Nanomaterials 1
14:00-15:40											
15:40-15:55	ANGELL 11	Adv. Materials 9	KOBE 11	KOZLOV 3	PARAMESWARAN 3	ROUND TABLE	SCHREFLER 11	Nanomaterials 4	TRESSAUD 11	WAYNAS 11	Nanomaterials 2
15:55-17:10											
17:35-17:40											
17:40-18:30	ANGELL 12	Adv. Materials 10	KOBE 12	KOZLOV 4	PARAMESWARAN 4	ROUND TABLE	SCHREFLER 12	Nanomaterials 5	TRESSAUD 12	WAYNAS 12	Nanomaterials 3
18:30-23:00											
THEME BUFFET DINNER & SHOW - AMONIA TERRACE											

Thursday Schedule

SYMPOSIUM	ANGELL Molten	Manufacturing Advanced Materials	KOBE SISAM	Magnesium	Oxidative	McNeil Laws	SCHREFFLER Geomechanics	USJIT Iron	TRESSAUD Solid Chemistry	VAYENAS Physical Chemistry	Energy
ROOM	Ambrosia A Restaurant	Room 1 Leeds Mezzanine	Room 3 Akamas C Ground	Room 4 Avcas Mezzanine	Room 5 Zeus Mezzanine	Room 6 Hermes Mezzanine	Room 7 Athens Mezzanine	Room 8 Ambrosia B Restaurant	Room 9 Aphrodite A Ground	Room 10 Aphrodite B Ground	Room 11 Ariadne Mezzanine
Floor											
8:15	SUMMIT PLENARY - AKAMAS BALLROOM (A+B)										
10:30	COFFEE BREAK/POSTERS/EXHIBITION - AKAMAS FOYER										
11:20	454 A. Angell	456 F. Marquis	471 J. Dubois	421 Y. Kawamura	219 H. Ichikawa	443 M. McNeil	377 B. Schrefler	480 L. Holappa	39 K. Proppelmeier	353 C. Vayenas	175 H. Dodds
11:45	49 G. McKenna	225 J. Pisarek	427 G. Hadjipanayis	484 Y. Kawamura	196 Y. Minamiyama	388 K. Oliver	263 G. P. Cabot	424 A. Mirao	95 J. Grenier	30 I. Riess	56 M. Maunzt
12:10	102 G. Jug	352 H. Dounamidis	94 L. Schultz	300 K. Hagiwara	323 C. Amatore	470 S. Davison	481 W. Wall	334 M. de Campos	5 S. Pan	55 A. de L. Consuegra	78 P. Gao
12:35	463 M. Gaune-Escard	215 A. P. Papavlu	192 T. Iriyama	309 D. Komkova	230 N. Okada	Round Table	Round Table	227 C. Carraro	396 H. Kang	146 D. Niakolas	183 T. Aldemir
13:00	LUNCH/POSTERS/EXHIBITION										
14:00	126 A. Loidl	119 T. Prikhna	307 N. Kostevšek	346 E. Abe	478 T. Yoshikawa	468 A. Neenan	181 P. Selvadurai	206 J. de Castro	157 Y. Shimokawa	Round Table	23 U. Schwingenschlogl
14:25	73 M. Armand	164 M. Attia	186 R. Koulat Njiwa	239 S. Harjo	266 S. Hirano	Round Table	179 M. Pastor	393 T. Usui	315 O. Mentre	162 A. Efstathiou	460 I. Malolliari
14:50	131 G. Kipourous	Round Table	137 P. Bravetti	291 D. Egusa	226 F. Yang (You)	431 W. Wenzel, Esp.	374 S. Schmauder	201 J. de Castro	400 A. Rougier	105 A. Katsaounis	155 S. Stefanov
15:15	462 V. Vassiliev	Round Table	113 M. Zehetbauer	333 M. Knapek	229 H. Imfusa	Round Table	256 A. Nemov	221 B. Kumar Singh	276 J. Majjmel	211 R. Lopes	259 D. Christian
15:40	COFFEE BREAK/POSTERS/EXHIBITION - AKAMAS FOYER										
15:55	248 A. Greer	455 F. Marquis	115 J. Jacimovic	448 E. Afantis	430 H. van Goor	474 K. Oliver	217 U. Galvanetto	220 P. pal	361 M. Rossensky	235 X. Verykios	329 A. Amarasakara
16:20	106 P. McMillan	50 U. Schwingenschlogl	132 G. Kipourous	313 R. Tanumi	322 A. Oleinick	Round Table	247 G. Mishuris	21 M. Mizutani	16 J. Adam	159 S. Neophytides	244 A. Hussien
16:45	168 M. Y. Fujita	404 R. Liu	156 Z. Chen	301 T. Tsumiyayura	321 W. Huang	475 M. McNeil	267 J. Shao	87 K. Ichikawa	210 T. Loiseau	112 V. Kyriakou	249 N. Charisou
17:10	17 Y. Marcus	436 L. XIN	189 K. Rozman	213 T. Inamura	Round Table	Round Table	459 S. Cuomo	420 S. Hori	197 z. Abdelateek	59 D. Zagoratos	458 I. Malolliari
17:35	BREAK/POSTERS/EXHIBITION										
17:40	110 A. Sokolov	293 A. T. Peitkoska	208 M. de Campos	Round Table	Round Table	449 D. Rihayem	328 M. Hirmand	331 S. Komarov	Round Table	Round Table	Round Table
18:05	161 M. Hron	22 I. Marcu	356 B. Podnifjsak	Round Table	Round Table	Round Table	7 M. Vahab	205 M. de Campos	Round Table	Round Table	Round Table
19:00	THEME BUFFET DINNER & SHOW - LIMANI AMPHITHEATER / TAVERNA										

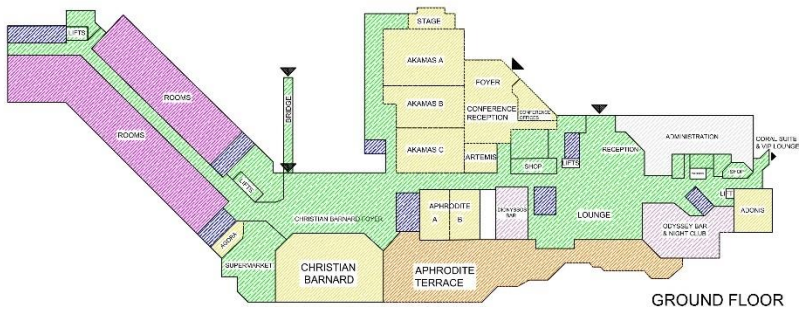
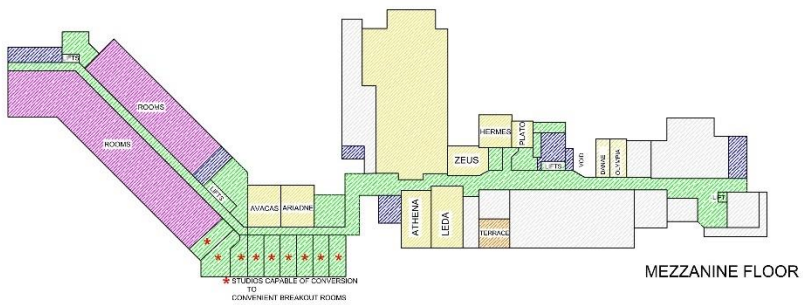
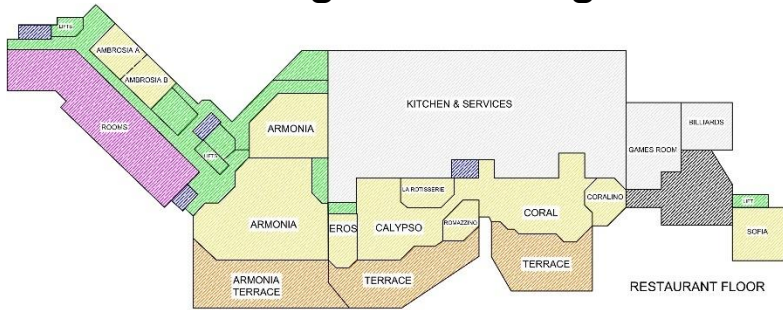
Friday Schedule

SYMPOSIUM	ANGELL Molten	Advanced Materials	KOBE SISAM	Magnesium	FLINK Ferro-alloys	McNeil Laws	SCHREFLER Geomaterials	USUI Iron	TRESSAUD Solid Chemistry	VAVENAS Physical Chemistry	Battery
ROOM	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8	Room 9	Room 10	Room 11
Floor	Ambrosia A Restaurant	Leda Mezzanine	Akamas C Ground	Avacas Mezzanine	Zeus Mezzanine	Hermes Mezzanine	Athens Mezzanine	Ambrosia B Restaurant	Aphrodite A Ground	Aphrodite B Ground	Ariadne Mezzanine
8:15	SUMMIT PLENARY - AKAMAS BALLROOM (A+B)										
10:30	COFFEE BREAK/POSTERS/EXHIBITION - AKAMAS FOYER										
11:20	148 F. Maier	337 N. Chikhradze	124 C. Burkhardt	435 M. Manuel	476 B. Filnik	442 M. McNeil	317 C. Hellmich	437 T. Usui	174 A. Tressaud	10 P. Vernoux	336 V. Kumar
11:45	123 K. Fujita	77 Y. Zheng	281 S. Sturm	486 M. Manuel	398 H. Gray	Round Table	386 H. Liu	429 M. Naito	163 D. Meshri	109 S. Bebelis	149 K. Teshima
12:10	120 Y. Yue	40 I. Banisic	410 A. Walton	294 M. Enoki	487 F. Kongoli	354 M. Cronin	409 C. Tamsagnini	273 H. Konishi	60 V. Maisonneuve	127 I. Yentekakis	92 T. Rojo
12:35	43 I. Novoselova	24 G. Patonay	198 M. de Campos	348 S. Inoue	482 P. Kouzoupiis	Round Table	272 M. Azarual	358 O. Ostrovski	53 N. Lapatash	Round Table	352 R. Tomov
13:00	LUNCH/POSTERS/EXHIBITION										
14:00	19 A. Grzybowski	117 T. Prikhna	70 J. Eckert	297 N. Kim	394 V. Tsyymbal	408 D. Lee	378 B. Markert	390 H. Nogami	Round Table	359 X. Markenscoff	349 A. Fox
14:25	34 M. Watanabe	373 L. Rappoport	250 A. Greer	290 T. Mayama	399 D. Carey	Round Table	279 P. Troulousid	271 H. Saxon	27 I. Flerov	12 N. Elizaz	258 D. M. Santos
14:50	173 V. Lutsyik	170 T. Rojo	29 P. Rizzi	237 K. Aizawa	485 G. Dorofeev	473 A. Erotricitou	363 J. Huyghe	479 F. Kongoli	36 A. Demourgues	324 K. Alfantis	343 C. Lao
15:15	224 S. Kuznetsov	252 S. Alkhoori	18 A. Kocjan	308 D. Drozdlenko	387 G. Borg	Round Table	428 C. Malerana	200 J. de Castro	91 D. Dambourmet	58 E. Martino	411 P. Librizzi
15:40	COFFEE BREAK/POSTERS/EXHIBITION - AKAMAS FOYER										
15:55	116 S. Einloft	107 T. Prikhna	74 R. Wheeler	296 S. Ando	407 M. Hart	467 A. Diaz-Bastien	242 H. Mang	419 Y. Iwai	169 T. Rojo	444 E. Alfantis	415 V. Selvaraj
16:20	125 V. Lutsyik	289 L. Kotai	472 R. Wheeler	319 P. Dobron	403 M. Hart	383 Y. Hayakawa	223 D. Gawin	372 C. Takano	177 S. Kalogirou	31 I. Riess	15 C. Capiglia
16:45	312 R. Fehrmann	194 D. Uskokovic	367 M. Soderžnik	295 H. Kitahara	412 F. Souza	368 F. Kongoli	222 F. Pesavento	385 S. Tagusagawa	405 K. Zaghib	288 P. Bosso	355 S. Natarajan
17:10	151 J. Dupont	66 L. dos Santos	150 I. Golovin	Round Table	Round Table	330 M. M. da Rosa	316 C. Pellegrino	76 T. Murakami	379 J. Molenda	65 D. Tsousis	453 L. Bird
17:35	BREAK/POSTERS/EXHIBITION										
17:40	Round Table	68 A. Moura Bernardes	80 H. Iwai	Round Table	Round Table	477 M. McNeil	465 K. Bergmeister	Round Table	62 K. Amine	Round Table	406 M. Chowalla
18:05	Round Table	25 W. Abdul-Majeed	241 L. Pintile	Round Table	Round Table	Round Table	464 K. Bergmeister	Round Table	61 M. A. Franco	Round Table	417 A. Kamali
19:00	GALA DINNER/AWARDS CEREMONY/SHOW - AKAMAS BALLROOM (A+B)										

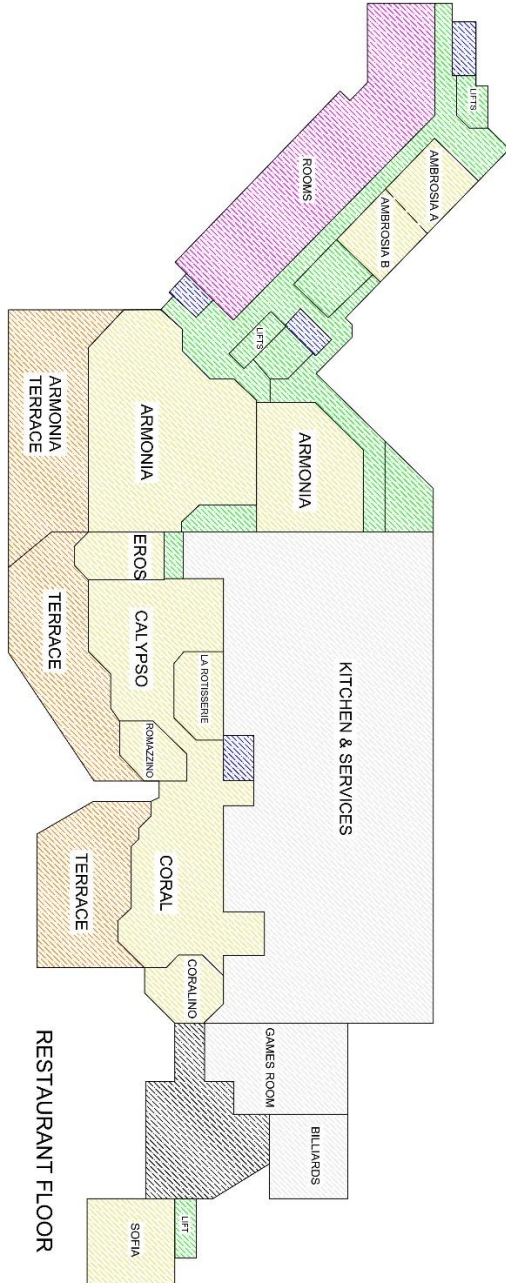
Saturday Schedule

SYMPOSIUM	ANGELL/Wolten KOZLOV/Recycling	Advanced Materials	KOBE SISAM	KOZLOV Recycling	PARAMESWARAN Mining	Mathematics	SCHREFLER Geomechanics	USUI /Iron Nanomaterials	TRESSAUD Solids Chemistry	VAYENAS Physical Chemistry	Battery Nanomaterials
ROOM	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8	Room 9	Room 10	Room 11
Floor	Ambrosia A Restaurant	Leads Mezzanine	Akamas C Ground	Akamas Mezzanine	Zeus Mezzanine	Hermes Mezzanine	Athens Mezzanine	Ambrosia B Restaurant	Aphrodite A Ground	Aphrodite B Ground	Ariadne Mezzanine
8-15	SUMMIT PLENARY - AKAMAS BALLROOM (4+B)										
10:30	COFFEE BREAK/POSTERS/EXHIBITION - AKAMAS FOYER										
11:20	13 J. Dupont	270 A. Panacek	104 M. Polak	134 P. Kozlov	469 K. Parameswaran	395 P. Rowlands	303 D. Smeulders	286 J. Antrekowitsch	439 L. Pereira	282 C. Galiotis	158 H. Martinez
11:45	257 H. Stassen	71 A. Mendes Filho	318 V. Fournée	483 F. Kongoli	425 W. Li	86 A. Konstantinidis	376 L. Sanavia	375 H. Song	397 K. Pedersen	46 M. Stoukides	441 Z. Jian
12:10	268 P. Masset	82 D. Sharma	33 T. Schreffl	234 E. Gerold	422 L. Liu	357 E. Gjika	216 M. Lefik	416 T. Usui	26 W. Umland	89 D. Grigoriou	325 K. Aifantis
12:35	85 R. Ludwig	83 J. Grazulevicius	264 F. Alvertini	240 S. Wibner	418 G. Liu	451 B. Cobani	332 I. de-P. Sarda	365 C. F. de Araújo	184 Z. Hrol	195 K. Petalidou	440 G. Li
13:00	LUNCH/POSTERS/EXHIBITION										
14:00	118 S. Wei	188 R. Kumar	347 K. Z. Soderznik	228 D. Hofer	389 W. Zhai	452 A. Ferija	64 G. Sobri	423 M. Nakamoto	335 F. Marquis	280 M. F. Stephanopoulos	432 M. de Campos
14:25	254 D. Walsh	114 R. Czervieniec	97 P. Jenus	165 T. Hoshino	245 D. Tskirli	369 Round Table	369 D. Boso	350 Y. Masaki	370 J. Etourneau	84 V. Mavrantzas	6 Y. Kobayashi
14:50	75 P. Lucas	203 B. Kaafarani	285 M. Calin	243 T. Velea	450 L. Navarro	Round Table	446 M. Horstemeyer	371 B. M. Leola	283 M. Dubois	128 J. Lercher	433 M. de Campos
15:15	466 V. Vassiljev	253 G. Newton	103 F. Spieckermann	37 S. Ashrit	251 M. Gorman	Round Table	447 E. Aifantis	326 M. G. Marroquin	38 B. Ameduri	445 M. Horstemeyer	392 T. Kuchukhidze
15:40	COFFEE BREAK/POSTERS/EXHIBITION - AKAMAS FOYER										
15:55	44 L. Kushakova	265 M. Pavese	275 J. Dubois	187 S. Steinschneider	438 V. Lalakshmanan	Round Table	310 G. Sciumè	434 D. Onwudike	171 B. Raveau	133 A. Fokas	121 T. Prikhna
16:20	144 A. Panshin	90 A. Vaitkus	79 P. Fantke	167 S. Imeri	172 G. Baiden	Round Table	180 F. Chinesta	287 A. Barroug	72 F. Dobroski	11 E. Savinova	204 M. de Campos
16:45	147 E. Mousa	199 P. Masset	342 M. Soderznik	176 M. Naimambayev	111 M. Goss	Round Table	262 V. Frenemyev	28 C. Li	57 M. Brekhovskikh	20 R. Sultanov	207 M. de Campos
17:10	260 E. Suleimenov	93 L. Listsyna	Round Table	277 M. Adeli	Round Table	Round Table	327 A. Soldati	261 L. Sartinska	Round Table	274 L. Kritek	209 M. de Campos
17:35	BREAK/POSTERS/EXHIBITION										
17:40	413 K. Kolomaznik	185 N. Jialagonia	Round Table	292 A. Potapov	Round Table	Round Table	Round Table	231 A. Alkhoori	Round Table	32 G. Haller	278 M. Adeli
18:05	122 T. G. Rodriguez	246 R. Saab	Round Table	457 I. Vozga	Round Table	Round Table	Round Table	202 E. Oliveira	Round Table	Round Table	Round Table
19:30	THEME BUFFET DINNER & SHOW - AMONIA TERRACE										

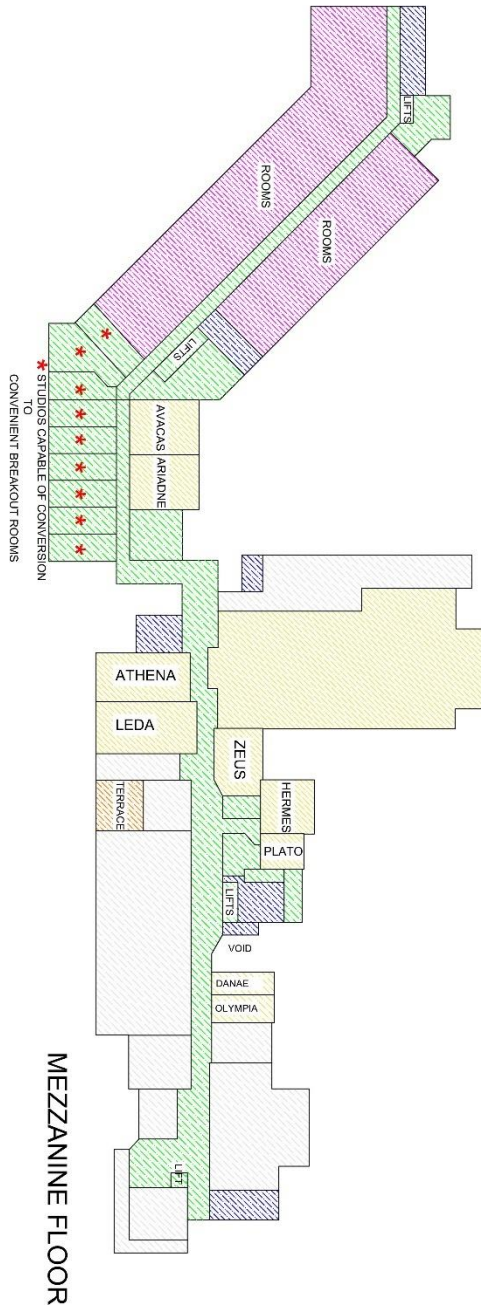
Meeting Rooms Diagram



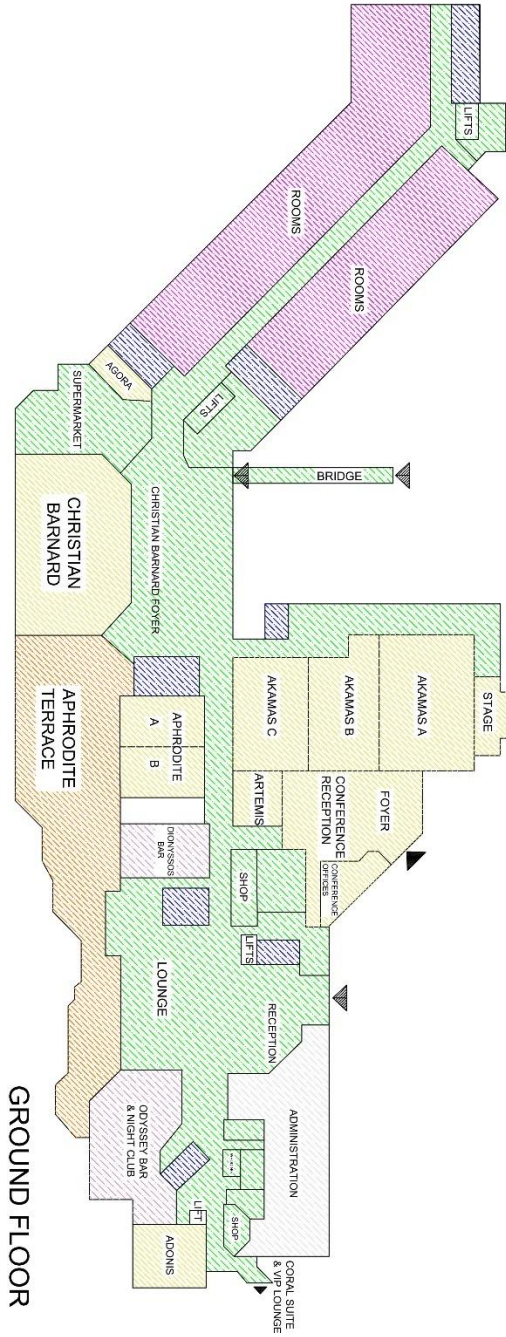
Restaurant Floor



Mezzanine Floor



Ground Floor



International Committee

This summit is organized by an international committee spanning six continents and representing major industrial ferrous, nonferrous, materials and recycling companies, as well as universities from around the world. Please select a continent below to view the associated organizers.



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- Athan **Fox**, Aurelius Environmental, United Kingdom
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- Ioannis **Yentekakis**, Technical University of Crete, Greece
- Yuanzheng **Yue**, Aalborg University, Denmark

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- Carlos **Cavalca**, Dupont, United States
- Harold **Dodds**, University of Tennessee, United States
- David **Dzombak**, Carnegie Mellon University(CMU), United States
- Stewart **Lewis**, Pyramid Polymers LLC, United States
- Fernand **Marquis**, San Diego State University, United States
- Stephen **Miller**, University of Florida, United States
- Shelley **Minteer**, The University of Utah, United States
- Ferid **Murad**, 1998 Nobel Prize Winner, United States
- Kenneth **Poepelmeier**, Northwestern University, United States
- Mary **Poulton**, University of Arizona, United States
- Ranko **Richert**, Arizona State University, United States
- Robin **Rogers**, University of Alabama, United States
- Yuriy **Roman**, Massachusetts Institute of Technology, United States
- Hong Yong **Sohn**, University of Utah, United States
- Ponisseril **Somasundaran**, Columbia University, United States
- Mark **Sullivan**, Massachusetts Institute of Technology, United States

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- Jose Adilson **de Castro**, UFF - Federal Fluminense University, Brazil
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- Nehemias **Lacerda**, FEMTO Applied Sciences, Brazil
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- Cyro **Takano**, University of Sao Paulo, Brazil
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- MFS (Materials science on mille-feuille structure)

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Academic Institutions

- Magnesium Research Center at Kumamoto University (MRC)

Journals and Publishers

- Metals an Open Access Journal by MDPI

Partner Airlines

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Social Events

(Preliminary)

Wednesday October 23th: Welcoming Informal Dinner and International Band Show. (on the Deck). **Attire:** Casual or Business

Thursday October 24th: Buffet Dinner and Cyprus and Greek Night Dancing Show (Limani Taverna). **Attire:** Casual or Business

Friday October 25th: Gala Dinner and Awards Night, Full Course Meal & Dancing Show **Attire:** Formal Black Tie/Business (Akamas Ballroom)

Saturday October 26th: Closing Social, Buffet Dinner and Entertainment (Armonia Terrace) - **Attire:** Casual or Business (to be decided)

IMPORTANT NOTE: All attendees and guests must keep their badges at all times, as they will be used to grant entry into all meals and activities. All accompanying guests must have registered and paid the fee, or they will be denied entry.

WARNING: The Organizing Committee reserves the right to modify/change or cancel the social activities without prior notice depending on the number of registrants in the web site for each activity.

Summit Plenary

(As of October 6, 2019 – subject to change)

SESSION: **SUMMIT PLENARY**

Thu Oct 24th, 2019

Room: **Akamas Ballroom (A+B)**

Session Chair: Florian Kongoli

08:15: [SummitPlenaryThuAM01]

Summit Thematic Opening

Florian Kongoli¹ ; ¹FLOGEN Technologies Inc., Mont-Royal, Canada;

Paper Id: 496

08:30: [SummitPlenaryThuAM02]

Technological Entrepreneurship - Key to World Prosperity and Peace an Shechtman¹; ¹2011 Nobel Laureate, Technion, Haifa, Israel;

Paper Id: 490

09:00: [SummitPlenaryThuAM03] al Plenary

Discovery of nitric oxide and cyclic GMP in cell signaling and drug development

Ferid Murad¹; ¹1998 Nobel Laureate, Washington Univ, United States;

Paper Id: 493

09:30: [SummitPlenaryThuAM04] General Plenary

Control of Oxidative Stress for Sustainable Development of Human Beings

Haruhiko Inufusa¹; ¹TIMA Japan Corporation, Gifu, Japan;

Paper Id: 489

10:00: [SummitPlenaryThuAM05] General Plenary

How to change mindsets of chemistry students: The expected influence on science

Donna Nelson¹; ¹2016 American Chemical Society, University of Oklahoma USA,
Oklahoma, United States;

Paper Id: 488

10:30 Break

SESSION: SUMMIT PLENARY

Fri Oct, 25 2019

Room: **Akamas Ballroom (A+B)**

Session Chair: Florian Kongoli

08:15: [SummitPlenaryFriAM01]

Thematic Address 1

Florian Kongoli¹; ¹FLOGEN Star OUTREACH, Montreal, Canada;

Paper Id: 497

08:30: [SummitPlenaryFriAM02]

Challenges and Opportunities for a Sustainable Planet

Yuan T. Lee¹; ¹1986 Nobel Laureate, Academia Sinica, Taiwan, Taiwan;

Paper Id: 491

09:00: [SummitPlenaryFriAM03]

How my Nobel Prize Contributed to a New Kilogram and SI Definition in 2019

Klaus Von Klitzing¹; ¹1985 Nobel Laureate, Max-Planck Institut FKF, Stuttgart, Germany;

Paper Id: 492

09:30: [SummitPlenaryFriAM04]

Perspectives on the Role of Transformative Materials and Technologies in Energy, Environment and Sustainability

Fernand Marquis¹; ¹San Diego State University, San Diego, United States;

Paper Id: 501

10:00: [SummitPlenaryFriAM05]

A World Without Waste

Athan Fox¹; ¹Aurelius Environmental, Dudley, United Kingdom;

Paper Id: 500

10:30 Break

SESSION: SUMMIT PLENARY

Sat Oct, 26 2017

Room: **Akamas Ballroom (A+B)**

Session Chair: Florian Kongoli

08:15: [SummitPlenarySatAM01]

Thematic Address 2

Florian Kongoli¹ ; ¹FLOGEN Star OUTREACH, Montreal, Canada;

Paper Id: 498

08:30: [SummitPlenarySatAM02]

Rare earth iron permanent magnets sustain the world

Masato Sagawa¹ ; ¹Daido Steel Co. Ltd., Nagoya, Japan;

Paper Id: 191

09:00: [SummitPlenarySatAM03] General Plenary

Basic Scientific Research and the Quality of Life

Kurt Wüthrich¹ ; ¹2002 Nobel laureate, ETH Zürich and Scripps Research;

Paper Id: 494

09:30: [SummitPlenarySatAM04] General Plenary

Adventures in Electron Transfer Reactions and Applications

Rudy A. Marcus¹ ; ¹1992 Nobel Laureate, California, United States;

Paper Id: 495

10:00: [SummitPlenarySatAM05]

Leadership and Sustainability (provisional title)

Subra Suresh¹ ; ¹Nanyang Technological University (NTU), Nanyang, Singapore;

Paper Id: 499

10:30 Break

Scientific Program

Oral Presentations

Thursday

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:

PhysicalThuAM-R10

Vayenas International Symposium on Physical
Chemistry and its applications for sustainable
development

Thu Oct, 24 2019

Room: **Aphrodite B (100/Gr. F)**

Session Chairs: Antonio **Consuegra**; Dimitrios **Niakolas**; Session Monitor: TBA

11:20: [PhysicalThuAM01] Plenary

Neutrinos and Electrons/Positrons: The Building Elements and Catalysts of our Universe

Constantinos Vayenas¹; ¹University of Patras, Patras, Greece;

Paper Id: 353 [\[Abstract\]](#)

11:45: [PhysicalThuAM02] Keynote

Novel Method for Determining Series of Elementary Steps in Oxygen Reduction Processes Using Isotope Exchange.

Ilan Riess¹; ¹Technion Israel Institute of Technology Faculty of Physics, Haifa, Israel;

Paper Id: 30 [\[Abstract\]](#)

12:10: [PhysicalThuAM03] Keynote

Electrochemical Promotion of Catalysis in Hydrogen Production Reactions

José Luis Valverde¹; Fernando Dorado²; Estela Ruiz Lopez³; **Antonio De Lucas Consuegra**³; ¹University of Castilla la Mancha, 13071, Spain; ²University of Castilla La Mancha, 13071, Spain; ³University of Castilla La Mancha, Ciudad Real, Spain;

Paper Id: 55 [\[Abstract\]](#)

12:35: [PhysicalThuAM04]

Transition Metal Elements as Ni/GDC Dopants for the H₂O Electrolysis Process in SOECs; Fe-Ni vs Au-Mo-Ni Interaction

Dimitrios Niakolas¹; **Stylianos G. Neophytides**²; Evangelia Ioannidou¹; Charalampos Neofytidis¹; ¹Foundation for Research and Technology, Institute of Chemical Engineering Sciences (FORTH/ICEHT), Patras, Greece; ²FORTH ICE-HT, PATRAS, Greece;

Paper Id: 146 [\[Abstract\]](#)

13:00 Lunch

SESSION 2:

PhysicalThuPM1AM-R10

**Vayenas International Symposium on Physical
Chemistry and its applications for sustainable
development**

Thu Oct, 24 2019

Room: **Aphrodite B (100/Gr. F)**

Session Chairs: Angelos **Efstathiou**; Alexandros **Katsaounis**; Session Monitor: TBA

14:00 Round Table

14:25: [PhysicalThuPM106] Keynote

How Transient and Isotopic Techniques Advance the Design of Catalytic Materials for Industrial Dry Reforming of Methane to Syngas

Angelos Efstathiou¹; Michalis Vasiliades¹; Constantinos Damaskinos¹; ¹University of Cyprus, Nicosia, Cyprus;

Paper Id: 162 [\[Abstract\]](#)

14:50: [PhysicalThuPM107] Keynote

The Role of the Promoting Ionic Species in Electrochemical Promotion and in Metal-Support Interactions. The Case of CO₂ Hydrogenation on Ru Based Catalysts

Dimitrios Grigoriou¹; **Dimitrios Zagoraios**¹; **Alexandros Katsaounis**²; **Constantinos Vayenas**¹; ¹University of Patras, Patras, Greece; ²Department of Chemical Engineering, University of Patras, Patras, Greece;

Paper Id: 105 [\[Abstract\]](#)

15:15: [PhysicalThuPM108]

Image Quality Improvement of Steel Cracks Inspection using MicroCT Allied to Mathematical Filters

Ricardo Lopes¹; Olga Araujo¹; Alessandra Machado¹; Davi Oliveira¹; ¹Federal University of Rio de Janeiro, Rio de Janeiro, Brazil;

Paper Id: 211 [\[Abstract\]](#)

15:40 Break

SESSION 3:
PhysicalThuPM2-R10

Vayenas International Symposium on Physical
Chemistry and its applications for sustainable
development

Thu Oct, 24 2019

Room: **Aphrodite B (100/Gr. F)**

Session Chairs: Vasileios **Kyriakou**; Dimitrios **Zagoraios**; Session Monitor: TBA

15:55: [PhysicalThuPM209] Plenary

Catalytic Processes in Future power Generation Systems

Xenophon Verykios¹; ¹University of Patras, Patras, Greece;

Paper Id: 235 [\[Abstract\]](#)

16:20: [PhysicalThuPM210] Keynote

New Low Loading Pt Based Nano-Materials for Fuel Cell Applications

Stylianios G. Neophytides¹; Maria Daletou²; ¹FORTH ICE-HT, PATRAS, Greece;

²FORTH-ICE/HT, patras, Greece;

Paper Id: 159 [\[Abstract\]](#)

16:45: [PhysicalThuPM211]

Exsolution of Transition Metal Nanoparticles for Solid Oxide Co-Electrolysis of CO₂-H₂O

Vasileios Kyriakou¹; Dragos Neagu²; Michail Tsampas³; ¹Dutch Institute for Fundamental Energy Research (DIFFER), Eindhoven, Netherlands; ²Newcastle University, Newcastle, United Kingdom; ³DIFFER, Eindhoven, Netherlands;

Paper Id: 112 [\[Abstract\]](#)

17:10: [PhysicalThuPM212]

Electrochemical Promotion of Methane Oxidation over Nanodispersed Pd/Co₃O₄ Catalysts

Dimitrios Zagoraios¹; **Dimitrios Zagoraios**²; **Alexandros Katsaounis**³; Angel Caravaca⁴; Ioanna Kalaitzidou⁴; Athanasia Athanasiadi⁵; Spyros Ntais⁴; **Philippe Vernoux**⁶; **Constantinos Vayenas**²; ¹University of Patras, Dept. of Chemical Engineering, Patras, Greece; ²University of Patras, Patras, Greece; ³Department of Chemical Engineering, University of Patras, Patras, Greece; ⁴University of Lyon, Lyon, France; ⁵University of Patras Dept. of Chemical Engineering, Patras, Achaia, Greece; ⁶University LYON 1, Lyon, France;

Paper Id: 59 [\[Abstract\]](#)

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:
EnergyThuAM-R11

6th Intl. Symp. on Sustainable Energy
Production: Fossil; Renewables; Nuclear;
Waste handling , processing, and storage for
all energy production technologies; Energy
conservation

Thu Oct, 24 2019

Room: **Ariadne (80/Mezz. F)**

Session Chairs: Manfred **Mauntz**; Harold **Dodds**; Session Monitor: TBA

11:20: [EnergyThuAM01]

Electricity Production Choices and Consequences-2019 Update

Harold Dodds¹ ; ¹University of Tennessee, Knoxville, United States;

Paper Id: 175 [\[Abstract\]](#)

11:45: [EnergyThuAM02]

**Continuous Online Monitoring of Dielectric Parameters for Engine Oils:
Identification of Critical Operation Conditions of Efficient Diesel and Gas
Engines for Live Time Enhancement**

Manfred Mauntz¹ ; Jorn Peuser¹ ; ¹cmc Instruments GmbH, Eschborn, Germany;

Paper Id: 56 [\[Abstract\]](#)

12:10: [EnergyThuAM03]

Nuclear Education and Training at Harbin Engineering University, China

Puzhen Gao¹ ; ¹Harbin Engineering University, Harbin, China;

Paper Id: 78 [\[Abstract\]](#)

12:35: [EnergyThuAM04] Keynote

Dynamic Probabilistic Risk Assessment of Nuclear Reactor Operation

Tunc Aldemir¹ ; ¹The Ohio state University, Columbus, United States;

Paper Id: 183 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
EnergyThuPM1-R11

6th Intl. Symp. on Sustainable Energy
Production: Fossil; Renewables; Nuclear;
Waste handling , processing, and storage for
all energy production technologies; Energy
conservation

Thu Oct, 24 2019

Room: **Ariadne (80/Mezz. F)**

Session Chairs: Udo **Schwingenschlogl**; Tunc **Aldemir**; Session Monitor: TBA

14:00: [EnergyThuPM105]

Proximity-Induced Spin-Valley Polarization in Silicene or Germanene on F-Doped WS₂

Udo Schwingenschlogl¹ ; Shahid Sattar¹ ; Nirpendra Singh¹ ; ¹King Abdullah

University of Science and Technology (KAUST), Thuwal, Saudi Arabia;

Paper Id: 23 [\[Abstract\]](#)

14:25: [EnergyThuPM106]

Agri-Food Biomass Resources and Process Simulation for Bioenergy Production

⁰ ; Jonilda Llupa¹ ; Lorina Liçi² ; **Ilijar Malollari**³ ; ¹PhD at Laboratory of Food Chemistry, Ioannina, Greece; ²Lecturer at Department of Energy Resources, Tirana, Albania; ³University of Tirana-Faculty of Natural Science, Tirana, Albania;

Paper Id: 460 [\[Abstract\]](#)

14:50: [EnergyThuPM107]

MANAGEMENT SHIPPING, TRANSPORTATION AND STORAGE OF HAZARDOUS WASTE IN THE WESTERN BALKAN COUNTRIES

Sonja Stefanov¹ ; Rade Biocanin² ; ¹, Novi Sad, Serbia and Montenegro (formerly Yugoslavia); ²State University of Novi Pazar, Novi Pazar, Serbia and Montenegro (formerly Yugoslavia);

Paper Id: 155 [\[Abstract\]](#)

15:15: [EnergyThuPM108] Keynote

The Role of the Energy Corporation in Driving to a Sustainable Future

David Christian¹ ; ¹Dominion Energy, Richmond, United States;

Paper Id: 259 [\[Abstract\]](#)

15:40 Break

SESSION 3:
EnergyThuPM2-R11

**6th Intl. Symp. on Sustainable Energy
Production: Fossil; Renewables; Nuclear;
Waste handling , processing, and storage for
all energy production technologies; Energy
conservation**

Thu Oct, 24 2019

Room: **Ariadne (80/Mezz. F)**

Session Chairs: Puzhen **Gao**; Sonja **Stefanov**; Session Monitor: TBA

15:55: [EnergyThuPM209]

Artificial Cellulase Type Catalysts for Processing Cellulosic Biomass

Ananda Amarasekara¹ ; ¹Prairie View A&M University, Prairie View, United States;

Paper Id: 329 [\[Abstract\]](#)

16:20: [EnergyThuPM210]

Tailored Zeolites via Acid Dealumination for Dry Reforming of Methane (DRM)

Aseel Hussien¹ ; Safa Gaber² ; Maryam Khaleel¹ ; Yasser Alwahedi¹ ; Kyriaki Polychronopoulou³ ; ¹Khalifa University of Science and Technology, Abu Dhabi, United Arab Emirates, Abu Dhabi, United Arab Emirates; ²Khalifa University of Science and Technology, Abu Dhabi, United Arab Emirates, Abu Dhabi, United Arab Emirates;

³Khalifa University, Abu Dhabi, United Arab Emirates;

Paper Id: 244 [\[Abstract\]](#)

16:45: [EnergyThuPM211]

Roles of Ni, Co and Cu Monometallic Catalysts Supported on ZrO₂ for Green Diesel Production via the Palm Oil Hydrodeoxygenation

Nikolaos Charisiou¹ ; Steven J. Hinder² ; Mark A. Baker² ; Kyriaki Polychronopoulou³ ; Maria A. Goula¹ ; ¹Laboratory of Alternative Fuels and Environmental Catalysis, Department of Chemical Engineering, University of Western Macedonia, Kozani, Greece, Kozani, Greece; ²The Surface Analysis Laboratory, Faculty of Engineering and Physical Sciences, University of Surrey, Guildford, UK, Guildford, United Kingdom;

³Khalifa University, Abu Dhabi, United Arab Emirates;

Paper Id: 249 [\[Abstract\]](#)

17:10: [EnergyThuPM212] Keynote

Cement Clinker Burning Process Simulation For Using Addition Of Some Wastes As Alternative Fuels For Improving Material And Energy Balances

Dhurata Premti¹ ; Klevis Gollosi² ; Erald Karakashi³ ; **Iirjan Malollari**⁴ ; ¹Lecturer at the Department of Industrial Chemistry, University of Tirana, Tirana, Albania;

²Chemical Engineer at Cement Plant Fushe-Kruja, Albania, Kruje, Albania; ³Plant Management Engineer., Kruje, Albania; ⁴University of Tirana-Faculty of Natural Science, Tirana, Albania;

Paper Id: 458 [\[Abstract\]](#)

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:
MoltenThuAM-R1

Angell International Symposium on Molten Salt, Ionic & Glass-forming Liquids: Processing and Sustainability (7th Intl. Symp. on Molten Salt, Ionic & Glass-forming Liquids: Processing and Sustainability).

Thu Oct, 24 2019

Room: **Ambrosia A (77/RF)**

Session Chairs: Marcelle **Gaune-Escard**; Gregory **McKenna**; Session Monitor: TBA

11:20: [MoltenThuAM01] Plenary

Glassforming and Ionic Liquids

Austen Angell¹ ; ¹Arizona State University, Tempe, United States;

Paper Id: 454 [\[Abstract\]](#)

11:45: [MoltenThuAM02] Plenary

20 Million Year Old Amber and Ultra-stable Amorphous Teflon and the Unexplored Region of Glassy Behavior

Gregory McKenna¹ ; ¹Texas Tech University, Lubbock, United States;

Paper Id: 49 [\[Abstract\]](#)

12:10: [MoltenThuAM03] Keynote

The Making of a Theory of the Vitreous Solid State: from 1 milli-K to 1 kilo-K

Giancarlo Jug¹ ; ¹DiSAT, Dip. Scienza e Alta Tecnologia, Università dell'Insubria, Como (Italy), Como, Italy;

Paper Id: 102 [\[Abstract\]](#)

12:35: [MoltenThuAM04] Keynote

NdBr3 - MBr binary systems (M = Li, Na, K, Rb, Cs) – an example for discussion of thermodynamic and transport properties of these LnX3-MX systems

Marcelle Gaune Escard¹ ; Ida Chojnacka² ; Leszek Rycerz² ; Jan Kapala³ ; ¹Aix-Marseille Université/Polytech, CNRS/IUSTI UMR7343, Marseille, France; ²Wrocław University of Science and Technology, Wrocław, Poland; ³Faculty of Chemistry, Wrocław University of Technology, Wrocław, Poland;

Paper Id: 463 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
MoltenThuPM1-R1

Angell International Symposium on Molten
Salt, Ionic & Glass-forming Liquids:
Processing and Sustainability (7th Intl. Symp.
on Molten Salt, Ionic & Glass-forming Liquids:
Processing and Sustainability).

Thu Oct, 24 2019

Room: **Ambrosia A (77/RF)**

Session Chairs: Alois **Loidl**; Michel **Armand**; Session Monitor: TBA

14:00: [MoltenThuPM105] Keynote

Broadband Dielectric Spectroscopy on Supercooled Liquids and Ion Conductors

Peter Lunkenheimer¹ ; **Alois Loidl**² ; ¹University of Augsburg, 86135 Augsburg,
Germany; ²Institute of Physics, University of Augsburg, Augsburg, Germany;

Paper Id: 126 [\[Abstract\]](#)

14:25: [MoltenThuPM106] Plenary

Polymer Electrolytes, in Search for the Elusive Decoupling

Michel Armand¹ ; ¹CIC Energigune, Paris, France;

Paper Id: 73 [\[Abstract\]](#)

14:50: [MoltenThuPM107] Keynote

**Reliable estimation of the hydrate vapour pressure of molten reactive halide
systems important to electrolysis and metallothermic reduction**

Georges Kipouros¹ ; ¹Materials Engineering, Dalhousie University, Halifax, Canada;

Paper Id: 131 [\[Abstract\]](#)

15:15: [MoltenThuPM108] Keynote

**The Similarity Method, Critical Analysis of Specific Heat and the Hybrid Model to
Describe Solid AlIBV, AlIBVI and Fourth Group Compounds from 0 to 1500 K**

Valery Vassiliev¹ ; Marcelle Gaune Escard² ; ¹Lomonossov Moscow State University,
Moscow, Russian Federation; ²Aix-Marseille Universite/Polytech, CNRS/IUSTI
UMR7343, Marseille, France;

Paper Id: 462 [\[Abstract\]](#)

15:40 Break

SESSION 3:
MoltenThuPM2-R1

Angell International Symposium on Molten
Salt, Ionic & Glass-forming Liquids:
Processing and Sustainability (7th Intl. Symp.
on Molten Salt, Ionic & Glass-forming Liquids:
Processing and Sustainability).

Thu Oct, 24 2019

Room: **Ambrosia A (77/RF)**

Session Chairs: Georges **Kipouros**; Giancarlo **Jug**; Session Monitor: TBA

15:55: [MoltenThuPM209] Plenary

Thermomechanical processing to extend the range of the glassy state

A. Lindsay Greer¹; ¹University of Cambridge, Cambridge, United Kingdom;

Paper Id: 248 [\[Abstract\]](#)

16:20: [MoltenThuPM210] Keynote

Luminescent and photocatalytically active carbon nitride nanocrystals dissolved in polar liquids

Paul F Mcmillan¹; **Adam Clancy**²; Christopher Howard²; Martin Wilding³; ¹University College London, London, United Kingdom; ²UCL, London, United Kingdom; ³Univ Manchester, Didcot, United Kingdom;

Paper Id: 106 [\[Abstract\]](#)

16:45: [MoltenThuPM211] Invited

Effect of additives on electrochemical properties of ionic liquids

Masahiro Yoshizawa Fujita¹; ¹Sophia University, Tokyo, Japan;

Paper Id: 168 [\[Abstract\]](#)

17:10: [MoltenThuPM212]

The relationship between the cohesive energy density, the internal pressure, and the surface tension of ionic liquids

Yizhak Marcus¹; ¹Hebrew University, Jerusalem, Israel;

Paper Id: 17 [\[Abstract\]](#)

17:35 Break

SESSION 4:
MoltenThuPM3-R1

**Angell International Symposium on Molten
Salt, Ionic & Glass-forming Liquids:
Processing and Sustainability (7th Intl. Symp.
on Molten Salt, Ionic & Glass-forming Liquids:
Processing and Sustainability).**

Thu Oct, 24 2019

Room: **Ambrosia A (77/RF)**

Session Chairs: Kyoko **FUJITA**; Florian **Maier**; Session Monitor: TBA

17:40: [MoltenThuPM313] Keynote

Extreme Fragilities in Liquids: From super-Strong to super-Fragile

Alexei Sokolov¹ ; ¹University of Tennessee and Oak Ridge National Laboratory,
Knoxville, United States;

Paper Id: 110. [\[Abstract\]](#)

18:05: [MoltenThuPM314]

**Overview of the Long-Term Experience of the Scientific as well as Technological
Research in the Field of Molten Salt Reactors (MSR)**

Miloslav Hron¹ ; ¹, Praha, Czech Republic;

Paper Id: 161. [\[Abstract\]](#)

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:
ManufacturingThuAM-R2

**2nd Intl. Symp.on Advanced Manufacturing for
Sustainable Development**

Thu Oct, 24 2019

Room: **Leda (99/Mezz. F)**

Session Chairs: Fernand **Marquis**; Nikoloz **Chikhradze**; Session Monitor: TBA

11:20: [ManufacturingThuAM01] Keynote

Advances in Synthesis and Densification of Heterogeneous Ultrafine and Nanostructured Materials and Applications in Components and Devices

Fernand D. S. Marquis¹; **Nikoloz Chikhradze**²; Tetiana Prikhna³; Eugene Olevsky¹;

¹San Diego State University, San Diego, United States; ²G. Tsulukidze Mining Institute, Tbilisi, Georgia; ³Institute for Superhard Materials, Kiev, Ukraine;

Paper Id: 456 [\[Abstract\]](#)

11:45: [ManufacturingThuAM02]

Nuclear Fusion, Advantages and Disadvantages of Inertial Methods

Jerzy Pisarek¹; ¹Jan Dlugosz Univ. Faculty of Mathematics and Natural Science, Czestochowa, Poland;

Paper Id: 225 [\[Abstract\]](#)

12:10: [ManufacturingThuAM03] Keynote

Constrained Crystal Growth During Solidification of Particles and Splats in Uniform Droplet Sprays

Haris Doumanidis¹; Yiannos Ioannou²; Hiroki Fukuda³; Teiichi Ando⁴; Claus Rebholz⁵; Yiliang Liao⁶; ¹Nazarbayev University, Astana, Kazakhstan;

²Montanuniversitat Leoben, Leoben, Austria; ³Fukuda Metal Foil & Powder Co Ltd, Kyoto, Japan; ⁴Northeastern University, Boston, United States; ⁵University of Cyprus, Nicosia, Cyprus; ⁶University of Nevada Reno, Reno, United States;

Paper Id: 152 [\[Abstract\]](#)

12:35: [ManufacturingThuAM04] Invited

Laser Induced Forward Transfer of Nanocomposites for Sensor and Biosensor Fabrication

Alexandra Palla Papavlu¹; Anca Bonciu¹; Mihaela Filipescu²; Maria Dinescu²;

¹National Institute for Lasers, Plasma and Radiation Physics, MAGURELE, Romania; ²National Institute for Lasers, Plasma and Radiation Physics, Magurele, Romania;

Paper Id: 215 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
ManufacturingThuPM1-R2

2nd Intl. Symp.on Advanced Manufacturing for
Sustainable Development

Thu Oct, 24 2019

Room: **Leda (99/Mezz. F)**

Session Chairs: Haris **Doumanidis**; Jerzy **Pisarek**; Session Monitor: TBA

14:00: [ManufacturingThuPM105] Keynote

Modeling, Structure and Properties of Aluminum Dodecaboride and Boron Carbide-Based Ceramics

Tetiana Prikhna¹ ; Pavlo Barvitskiy¹ ; Richard Haber² ; Volodymyr Kushch³ ; Leonid Devin³ ; Sergey Dub¹ ; Myroslav Karpets¹ ; Semyon Ponomarov⁴ ; Florian Kongoli⁵ ; Fernand Marquis⁶ ; ¹Institute for Superhard Materials, Kiev, Ukraine; ²Department of Materials Science and Engineering, Rutgers, The State University of New Jersey, New Brunswick, United States; ³Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kiev, Ukraine; ⁴Institute of Semiconductor Physics, Kiev, Ukraine; ⁵FLOGEN Technologies Inc., Mont-Royal, Canada; ⁶San Diego State University, San Diego, United States;

Paper Id: 119 [\[Abstract\]](#)

14:25: [ManufacturingThuPM106] Keynote

Present Status and Future Directions of Sustainable Machining

M. Helmi Attia¹ ; ¹Adj Professor, Mechanical Engineering, McGill University / National Research Council Canada (NRC), Montreal, Canada;

Paper Id: 164 [\[Abstract\]](#)

14:50 Round Table

15:15 Round Table

15:40 Break

SESSION 1:
AdvancedMaterialsThuPM2-R2

5th Intl. Symp. on New and Advanced
Materials and Technologies for Energy,
Environment and Sustainable Development

Thu Oct, 24 2019

Room: **Leda (99/Mezz. F)**

Session Chairs: Fernand **Marquis**; Udo **Schwingschlogl** Session Monitor: TBA

15:55: [AdvancedMaterialsThuPM209] Plenary

Perspectives on the Role of Transformative Materials and Technologies in Energy, Environment and Sustainability

Fernand D. S. Marquis¹ ; ¹San Diego State University, San Diego, United States;

Paper Id: 455 [\[Abstract\]](#)

16:20: [AdvancedMaterialsThuPM210] Keynote

Elemental 2D Materials beyond Graphene: Insights from Computational Theory

Udo Schwingschlogl¹ ; ¹King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia;

Paper Id: 50 [\[Abstract\]](#)

16:45: [AdvancedMaterialsThuPM211] Invited

An Efficient Flexible Self-powered System Integrating Organic Solar Cells and Supercapacitors

Ruiyuan Liu¹ ; Masahito Takakuwa² ; Kilho Yu² ; Zhi Jiang^{2,0} ; Shinjiro Umezu³ ; Kenjiro Fukuda² ; Takao Someya² ; ¹Center for Emergent Matter Science (CEMS), RIKEN, Wako, Japan; ²Center for Emergent Matter Science (CEMS), RIKEN, Japan, Wako, Japan; ³Waseda University, Tokyo, Japan;

Paper Id: 404 [\[Abstract\]](#)

17:10: [AdvancedMaterialsThuPM212]

Contrast Experiment Research of Cementitious Materials to an Iron Mine

Li Xin¹ ; ¹BGRIMM Technology Group, BEIJING, China;

Paper Id: 436 [\[Abstract\]](#)

17:35 Break

SESSION 2:
AdvancedMaterialsThuPM3-R2

5th Intl. Symp. on New and Advanced
Materials and Technologies for Energy,
Environment and Sustainable Development

Thu Oct, 24 2019

Room: **Leda (99/Mezz. F)**

Session Chairs: Anka **Petkoska**; Ivana **Barisic**; Session Monitor: TBA

17:40: [AdvancedMaterialsThuPM313]

Improved Efficiency of PVT Collector

Anka Trajkovska Petkoska¹ ; Ilija Nasov² ; ¹Assoc. Prof., Veles, Macedonia (Former Yugoslav Republic of Macedonia); ²CEO PLasma, Skopje, Macedonia (Former Yugoslav Republic of Macedonia);

Paper Id: 293 [\[Abstract\]](#)

18:05: [AdvancedMaterialsThuPM314] Keynote

**Oxidative Dehydrogenation of Light Alkanes over Oxide-based Catalysts:
Enhancing the Selectivity**

Ioan-cezar Marcu¹ ; ¹Laboratory of Chemical Technology & Catalysis, Faculty of Chemistry, University of Bucharest, Bucharest, Romania;

Paper Id: 22 [\[Abstract\]](#)

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:
SISAMThuAM-R3

A: Magnetic materials today

Kobe International Symposium on Science of
Innovative and Sustainable Alloys and
Magnets (5th Intl. Symp. on Science of
Intelligent and Sustainable Advanced
Materials (SISAM))

Thu Oct, 24 2019

Room: **Akamas C (140/Gr. F)**

Session Chairs: Jean-Marie **Dubois**; Session Monitor: TBA

11:20: [SISAMThuAM01] Plenary

Magnetic Materials in the Current Global Environmental Issues

Jean-marie Dubois¹ ; **Spomenka Kobe**² ; ¹Institut Jean Lamour, Nancy, France; ²Josef Stefan Institute, Ljubljana, Slovenia;

Paper Id: 471 [\[Abstract\]](#)

11:45: [SISAMThuAM02] Plenary

Advances in Permanent Magnets

George Hadjipanayis¹ ; ¹Department of Physics and Astronomy, University of Delaware, Newark, United States;

Paper Id: 427 [\[Abstract\]](#)

12:10: [SISAMThuAM03]

Interaction Of Ferromagnetic And Superconducting Permanent Magnets: Basics And Applications Of Passively Stable Quantum Levitation

Ludwig Schultz¹ ; ¹TU Dresden, Dresden, Germany;

Paper Id: 94 [\[Abstract\]](#)

12:35: [SISAMThuAM04] Invited

Recent Developments in R-Fe-X Permanent Magnets

Takahiko Iriyama¹ ; **Masato Sagawa**² ; ¹Corporate R&D Center, Daido Steel Co., Ltd., Nagoya, Japan; ²Daido Steel Co. Ltd., Nagoya, Japan;

Paper Id: 192 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
SISAMThuPM1-R3
B: Bio is beautiful

Kobe International Symposium on Science of
Innovative and Sustainable Alloys and
Magnets (5th Intl. Symp. on Science of
Intelligent and Sustainable Advanced
Materials (SISAM))

Thu Oct, 24 2019

Room: **Akamas C (140/Gr. F)**

Session Chairs: A. Lindsay **Greer**; Session Monitor: TBA

14:00: [SISAMThuPM105] Keynote

Engineering of Nanoparticle-based Magnetic Resonance Imaging Contrast Agents

Nina Kostevšek¹ ; Igor Serša² ; Calvin Cheung³ ; Wafa Al Jamal⁴ ; ¹Jozef Stefan Institute, Ljubljana, Slovenia; ²Jozef Stefan Institute, Ljubljana, Slovenia; ³School of Pharmacy Queen's University Belfast, Belfast, United Kingdom; ⁴School of Pharmacy, Queen's University Belfast, Belfast, United Kingdom, Belfast, United Kingdom;
Paper Id: 307 [\[Abstract\]](#)

14:25: [SISAMThuPM106]

A Surface Mechanical Approach of the Sustainability of Implantable Medical Devices

Richard Kouitat Njiwa¹ ; ¹Institut Jean Lamour (UMR 7198 CNRS-Université de Lorraine), Nancy, France;
Paper Id: 186 [\[Abstract\]](#)

14:50: [SISAMThuPM107]

Towards The Sustainability of Implantable Medical Devices

Richard Kouitat Njiwa¹ ; **Pierre Bravetti**² ; M'barek Taghite³ ; Gael Pierson⁴ ; ¹Institut Jean Lamour (UMR 7198 CNRS-Université de Lorraine), Nancy, France; ²Institut Jean Lamour (UMR 7198 CNRS-Université de Lorraine), Nancy, France; ³, Laxou, France; ⁴Institut Jean Lamour, Nancy, France;
Paper Id: 137 [\[Abstract\]](#)

15:15: [SISAMThuPM108]

Improving Soft-Magnetic And Biodegradable Metallic Materials By Means Of Severe Plastic Deformation

Michael J. Zehetbauer¹ ; Sheraz Khakwani¹ ; Monika Antoni² ; Alexander Rabensteiner² ; Roland Groessinger³ ; Andrea Ojdic¹ ; Jelena Horky⁴ ; Erhard Schafner¹ ; Dmytro Orlov⁵ ; ¹University of Vienna, Wien, Austria; ²Technical University Vienna, Wien, Austria; ³Vienna University of Technology, Faculty of Physics, Wien, Austria; ⁴Austrian Institute of Technology, Seibersdorf, Austria; ⁵Division Mater.Engineering, Dep. Mech. Engineering, Lund University, Lund, Sweden;
Paper Id: 113 [\[Abstract\]](#)

15:40 Break

SESSION 3:
SISAMThuPM2-R3
C: Processing

Kobe International Symposium on Science of
Innovative and Sustainable Alloys and
Magnets (5th Intl. Symp. on Science of
Intelligent and Sustainable Advanced
Materials (SISAM))

Thu Oct, 24 2019

Room: **Akamas C (140/Gr. F)**

Session Chairs: Carlo **Burkhardt**; Session Monitor: TBA

15:55: [SISAMThuPM209] Invited

Net Shape 3D Printed NdFeB Permanent Magnet

Jacim Jacimovic¹ ; ¹ABB Corporate research, Baden-Daetwill, Switzerland;

Paper Id: 115 [\[Abstract\]](#)

16:20: [SISAMThuPM210]

Powder Metallurgy: An old technique became a sustainable component of the additive metal manufacturing

Georges Kipouros¹ ; ¹Materials Engineering, Dalhousie University, Halifax, Canada;

Paper Id: 132 [\[Abstract\]](#)

16:45: [SISAMThuPM211]

Review of melt-spun RE-Fe-B powders and their bonded and fully-dense magnets for automotive applications

Zhongmin Chen¹ ; ¹Neo Performance Materials (Singapore) Pte Ltd, Singapore, Singapore;

Paper Id: 156 [\[Abstract\]](#)

17:10: [SISAMThuPM212]

Effective Electrochemical and Physical Reprocessing of Nd-Fe-B and Sm-Co Permanent Magnets, Approaching the Zero Waste Economy

Kristina Rozman¹ ; Xuan Xu¹ ; Awais Ikram¹ ; Farhan Mehmood¹ ; Richard Sheridan² ; Allan Walton² ; Muhammad Awais² ; Anas Eldosoukey³ ; Spomenka Kobe⁴ ; Saso Sturm⁵ ; ¹Jozef Stefan Institute, Ljubljana, Slovenia; ²University of Birmingham, Birmingham, United Kingdom; ³Magneti Ljubljana, d.d., Ljubljana, Slovenia; ⁴Josef Stefan Institute, Ljubljana, Slovenia; ⁵Head of Department for Nanostructured Materials, Ljubljana, Slovenia;

Paper Id: 189 [\[Abstract\]](#)

17:35 Break

SESSION 4:
SISAMThuPM3-R3
C: Processing cont.

Kobe International Symposium on Science of
Innovative and Sustainable Alloys and
Magnets (5th Intl. Symp. on Science of
Intelligent and Sustainable Advanced
Materials (SISAM))

Thu Oct, 24 2019

Room: **Akamas C (140/Gr. F)**

Session Chairs: Allan **Walton**; Session Monitor: TBA

17:40: [SISAMThuPM313]

Effect of grain size on the coercive field of hard and soft magnetic materials

Marcos De Campos¹ ; Jose Adilson De Castro¹ ; ¹UFF - Federal Fluminense
University, Volta Redonda, Brazil;

Paper Id: 208 [\[Abstract\]](#)

18:05: [SISAMThuPM314]

**A Success Story for more than 30 years: From Basic Research to the Industrial
Innovation of Magnet Materials at Jožef Stefan Institute, Slovenia**

Benjamin Podmiljsak¹ ; **Kristina Rozman**¹ ; **Saso Sturm**² ; **Spomenka Kobe**³ ; ¹Jozef
Stefan Institute, Ljubljana, Slovenia; ²Head of Department for Nanostructured
Materials, Ljubljana, Slovenia; ³Josef Stefan Institute, Ljubljana, Slovenia;

Paper Id: 356 [\[Abstract\]](#)

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:
MagnesiumThuAM-R4

**Intl Symp. on Next Generation Magnesium
Alloys and Their Applications for Sustainable
Development**

Thu Oct, 24 2019

Room: **Avacas (98/Mezz. F)**

Session Chairs: Donald **Shih**; Session Monitor: TBA

11:20: [MagnesiumThuAM01] Keynote

**Development of Next-Generation Inflammable High-Strength Magnesium Alloys
(Part 1)**

Yoshihito Kawamura¹; ¹Magnesium Research Center (MRC) Kumamoto University,
Kumamoto, Kumamoto, Japan;

Paper Id: 421 [\[Abstract\]](#)

11:45: [MagnesiumThuAM02] Keynote

**Development of Next-Generation Inflammable High-Strength Magnesium Alloys
(Part 2)**

Yoshihito Kawamura¹; ¹Magnesium Research Center (MRC) Kumamoto University,
Kumamoto, Kumamoto, Japan;

Paper Id: 484 [\[Abstract\]](#)

12:10: [MagnesiumThuAM03] Invited

**Strengthening using the Deformation Kink Band in Mg-Based LPSO-Phase
Alloys**

Koji Hagihara¹; Takayoshi Nakano¹; Michiaki Yamasaki²; Yoshihito .kawamura³;

¹Osaka university, Suita, Japan; ²Kumamoto university, Kumamoto, Japan; ³Kumamoto
University, Kumamoto, Japan;

Paper Id: 300 [\[Abstract\]](#)

12:35: [MagnesiumThuAM04]

**Influence of Cold Severe Plastic Deformation on Structure and Texture of Pure
Magnesium**

Daria Komkova¹; Olga Antonova¹; Vlada Petrova¹; Alexey Volkov¹; ¹M.N. Mikheev
Institute of Metal Physics of the Ural Branch of the Russian Academy of Sciences,
Yekaterinburg, Russian Federation;

Paper Id: 309 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
MagnesiumThuPM1-R4

**Intl Symp. on Next Generation Magnesium
Alloys and Their Applications for Sustainable
Development**

Thu Oct, 24 2019

Room: **Avacas (98/Mezz. F)**

Session Chairs: Elias **Aifantis**; Session Monitor: TBA

14:00: [MagnesiumThuPM105] Invited

Kink Strengthening of LPSO and Mille-Feuille Structures in Mg Alloys

Eiji Abe¹ ; ¹The University of Tokyo, Bunkyo-ku, Japan;

Paper Id: 346 [\[Abstract\]](#)

14:25: [MagnesiumThuPM106]

**In Situ Neutron Diffraction during Compression or Tension of Extruded
Mg97Zn1Y2**

Stefanus Harjo¹ ; **Kazuya Aizawa**² ; Wu Gong³ ; Takuro Kawasaki² ; ¹Japan Atomic Energy Agency, Naka-gun, Japan; ²Japan Atomic Energy Agency, Tokai-mura, Japan; ³Kyoto University, Tokai-mura, Japan;

Paper Id: 239 [\[Abstract\]](#)

14:50: [MagnesiumThuPM107]

Kink Microstructures and Solute Segregations in LPSO/MFS-Structured Mg Alloys

Daisuke Egusa¹ ; Eiji Abe¹ ; ¹The University of Tokyo, Bunkyo-ku, Japan;

Paper Id: 291 [\[Abstract\]](#)

15:15: [MagnesiumThuPM108]

Deformation Behavior of Novel Magnesium Alloys Prepared by Spark Plasma Sintering Studied by the Acoustic Emission Technique

Michal Knappek¹ ; Peter Minárik² ; ¹Nuclear Physics Institute of the CAS, Řež, Czech Republic; ²Charles University, Department of Physics of Materials, Prague, Czech Republic;

Paper Id: 333 [\[Abstract\]](#)

15:40 Break

SESSION 3:
MagnesiumThuPM2-R4

**Intl Symp. on Next Generation Magnesium
Alloys and Their Applications for Sustainable
Development**

Thu Oct, 24 2019

Room: **Avacas (98/Mezz. F)**

Session Chairs: Donald **Shih**; Session Monitor: TBA

15:55: [MagnesiumThuPM209] Invited

Gradient Theory and Mg-Alloys

Elias Aifantis¹ ; ¹Aristotle University of Thessaloniki, Thessaloniki, Greece;

Paper Id: 448 [\[Abstract\]](#)

16:20: [MagnesiumThuPM210]

Dislocation-Based Modeling and Numerical Analysis on the Formation of Kink Band

Ryuichi Tarumi¹ ; Shunsuke Kobayashi² ; Sho Yamada³ ;⁰ ; Masao Ogino⁴ ; ¹Osaka University, Toyonaka, Japan; ², Minoh city, Japan; ³, Osaka, Japan; ⁴Daido University, Nagoya, Japan;

Paper Id: 313 [\[Abstract\]](#)

16:45: [MagnesiumThuPM211]

First-Principles Study on The Origin of Structural Stability of Mg-M-Y (M = Ni, Cu, Co, and Zn) Alloys with Long-Period Stacking Ordered Structure

Takao Tsumuraya¹ ; Tamio Oguchi² ; ¹Kumamoto University, Kumamoto, Japan;

²Osaka University, Ibaraki, Japan;

Paper Id: 301 [\[Abstract\]](#)

17:10: [MagnesiumThuPM212]

Kinematical Modeling of Kink Microstructure

Tomonari Inamura¹ ; ¹Tokyo Institute of Technology, Yokohama, Japan;

Paper Id: 213 [\[Abstract\]](#)

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

SESSION 1:
OxidativeThuAM-R5

Intl. Symp. on Oxidative Stress for Sustainable
Development of Human Beings

Thu Oct, 24 2019

Room: **Zeus (55/Mezz. F)**

Session Chairs: Haruhiko **Inufusa**; Christian **Amatore**; Session Monitor: TBA

11:20: [OxidativeThuAM01]

The Effect of Ginseng on Human Antioxidant Capacity

Hiroshi Ichikawa¹; Yuta Noguchi¹; Maryam Shafei¹; Chiharu Myo¹; Keiko Kobayashi²; **Yukiko Minamiyama**³; Haruhiko Inufusa⁴; Toshikazu Yoshikawa⁵; ¹Major of Medical Life Systems, Graduate School of Life and Medical Sciences, Doshisha University, Kyotanabe City, Japan; ²Kyoto Prefectural University, Kyoto, Japan; ³Kyoto Prefectural University, KYoto, Japan; ⁴CEO, TIMA/Gifu University, Osaka, Japan; ⁵Louis Pasteur Center for Med. Res., Tohoku, Japan;
Paper Id: 219 [\[Abstract\]](#)

11:45: [OxidativeThuAM02]

Exposome-Induced Oxidative Stress and Protective Effects of Antioxidants in Rats

Yukiko Minamiyama¹; Keiko Kobayashi²; Ririko Kawatani³; **Hiroshi Ichikawa**⁴; Shigekazu Takemura⁵; Fuhua (fukka) Yang (you)⁶; Haruhiko Inufusa⁷; Toshikazu Yoshikawa⁸; ¹Kyoto Prefectural University, KYoto, Japan; ²Kyoto Prefectural University, Kyoto, Japan; ³Graduate School of Life and Medical Sciences Doshisha University, Kyotanabe, Japan; ⁴Major of Medical Life Systems, Graduate School of Life and Medical Sciences, Doshisha University, Kyotanabe City, Japan; ⁵Graduate School of Medicine, Osaka City University, Osaka, Japan; ⁶Gifu University Division of Anaerobe Research, Gifu, Japan; ⁷Gifu University, Division of Anti-Oxidant Research, Gifu, Japan; ⁸Louis Pasteur Center for Med. Res., Tohoku, Japan;
Paper Id: 196 [\[Abstract\]](#)

12:10: [OxidativeThuAM03]

Understanding Oxidative Stress in Brain with Ultramicroelectrodes: Implications for a Possible Mechanism of Alzheimer Disease

Christian Amatore¹; ¹CNRS & PSL, French Acad. of Sci. and Xiamen University, Paris, France;
Paper Id: 323 [\[Abstract\]](#)

12:35: [OxidativeThuAM04]

Oxidative Stress: Cancer and Oxidative Stress

Naomi Okada¹; Fuhua (fukka) Yang (you)²; Haruhiko Inufusa³; ¹Division of Anti-Oxidant Research, Life Science Research Center, Gifu University, Gifu, Japan; ²Gifu University Division of Anaerobe Research, Gifu, Japan; ³Gifu University, Division of Anti-Oxidant Research, Gifu, Japan;
Paper Id: 230 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
OxidativeThuPM1-R5

**Intl. Symp. on Oxidative Stress for Sustainable
Development of Human Beings**

Thu Oct, 24 2019

Room: **Zeus (55/Mezz. F)**

Session Chairs: Toshikazu **Yoshikawa**; Shigeru **Hirano**; Session Monitor: TBA

14:00: [OxidativeThuPM105]

Oxidative Stress Disease (Free Radical Disease) and its Prevention - Appearance of the Effective Antioxidant Material

Toshikazu Yoshikawa¹ ; ¹Louis Pasteur Center for Med. Res., Tohoku, Japan;

Paper Id: 478 [\[Abstract\]](#)

14:25: [OxidativeThuPM106]

Role of Anti-oxidant Twendee X for Maintenance of Voice and Swallow

Shigeru Hirano¹ ; **Haruhiko Inufusa**² ; Toshikazu Yoshikawa³ ; ¹Department of

Otolaryngology, Kyoto Prefectural University of Medicine, Kyoto, Japan; ²Gifu University, Division of Anti-Oxidant Research, Gifu, Japan; ³Louis Pasteur Center for Med. Res., Tohoku, Japan;

Paper Id: 266 [\[Abstract\]](#)

14:50: [OxidativeThuPM107]

Oxidative Stress: Does Continuous Oxidative Stress Reduction Prevent and Ameliorate Diseases through Species Diversity of Intestinal Bacteria?

Fuhua (fukka) Yang (you)¹ ; Kaori Tanaka² ; **Haruhiko Inufusa**³ ; ¹Gifu University Division of Anaerobe Research, Gifu, Japan; ²1) Division of Anaerobe Research, Life Science Research Center, Gifu University, Gifu, Japan; ³Gifu University, Division of Anti-Oxidant Research, Gifu, Japan;

Paper Id: 226 [\[Abstract\]](#)

15:15: [OxidativeThuPM108]

Brain Disease and Oxidative Stress: Ischemia and Dementia

Haruhiko Inufusa¹ ; Koji Abe² ; Isao Tadokoro² ; **Fuhua (fukka) Yang (you)**³ ; Toshikazu Yoshikawa⁴ ; ¹Gifu University, Division of Anti-Oxidant Research, Gifu, Japan; ²Department of Neurology, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, Okayama, Japan; ³Gifu University Division of Anaerobe Research, Gifu, Japan; ⁴Louis Pasteur Center for Med. Res., Tohoku, Japan;

Paper Id: 229 [\[Abstract\]](#)

15:40 Break

SESSION 3:
OxidativeThuPM2-R5

**Intl. Symp. on Oxidative Stress for Sustainable
Development of Human Beings**

Thu Oct, 24 2019

Room: **Zeus (55/Mezz. F)**

Session Chairs: Alexander **Oleinick**; Harry **van Goor**; Session Monitor: TBA

15:55: [OxidativeThuPM209]

Redox Status in Health and Disease

Harry Van Goor¹; Arno Bourgonje²; Amel Eman Abdulle²; Sanne Gordijn²; Udo Mulder²; Gerard Dijkstra²; Andreas Pasch³; ¹UMCG, Groningen, Netherlands; ²University Medical Center Groningen and University of Groningen, Groninge, Netherlands; ³Johannes Kepler University Linz, Linz 4040, Austria;
Paper Id: 430 [\[Abstract\]](#)

16:20: [OxidativeThuPM210]

Theoretical Aspects of Reactive Oxygen/Nitrogen Species Homeostasis inside Macrophages during Phagocytosis Monitored at Nanoelectrodes

Alexander Oleinick¹; Xin-wei Zhang²; Irina Svir³; Christian Amatore⁴; Wei-hua Huang⁵; ¹CNRS-ENS-SU UMR 8640 PASTEUR, CNRS, Paris, France; ²Key Laboratory of Analytical Chemistry for Biology and Medicine, College of Chemistry and Molecular Sciences, Wuhan, China; ³Ecole Normale Supérieure, Department Chemistry, PARIS, France; ⁴CNRS & PSL, French Acad. of Sci. and Xiamen University, Paris, France; ⁵Wuhan University, Wuhan, China;
Paper Id: 322 [\[Abstract\]](#)

16:45: [OxidativeThuPM211]

Electrochemical Monitoring of ROS/RNS Homeostasis Within Individual Phagolysosomes Inside Single Macrophages

Wei-hua Huang¹; ¹Wuhan University, Wuhan, China;
Paper Id: 321 [\[Abstract\]](#)

17:10 Round Table

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:
LawsThuAM-R6

McNeil International Symposium on Laws and
their Applications for Sustainable
Development

Thu Oct, 24 2019

Room: **Hermes (64/Mezz. F)**

Session Chairs: Keith **Oliver**; Malcolm **McNeil**; Session Monitor: TBA

11:20: [LawsThuAM01]

International Trade and Tariffs: It's Business!

Malcolm Mcneil¹ ; ¹Arent Fox, Los Angeles, United States;

Paper Id: 443 [\[Abstract\]](#)

11:45: [LawsThuAM02]

**From Facial Recognition to Fraud: The Rise of the Lex Technologica and its
impact on Financial Crime**

Keith Oliver¹ ; ¹Peters & Peters, London, United Kingdom;

Paper Id: 388 [\[Abstract\]](#)

12:10: [LawsThuAM03]

Criminal Investigations and Covert Investigations

Simon John Davison¹ ; ¹Another Day, London, United Kingdom;

Paper Id: 470 [\[Abstract\]](#)

12:35 Round Table

13:00 Lunch

SESSION 2:
LawsThuPM1-R6

McNeil International Symposium on Laws and
their Applications for Sustainable
Development

Thu Oct, 24 2019 / Room:

Hermes (64/Mezz. F)

Session Chairs: Amalia **Neenan**; Simon John **Davison**; Session Monitor: TBA

14:00: [LawsThuPM105]

The Good, The Bad and The Bitcoin: Crypto-assets as a phenomenon

Amalia Neenan¹ ; ¹Peters & Peters, London, United Kingdom;

Paper Id: 468 [\[Abstract\]](#)

14:25 Round Table

14:50: [LawsThuPM107]

Blockchain & Distributed Ledger Technology: Sustainable Business Revolutions Through Trustless Transactions

William S. Wenzel, Esq.¹; ¹Red Road Legal, PC, Denver, United States;

Paper Id: 431 [\[Abstract\]](#)

15:15 Round Table

15:40 Break

SESSION 3:
LawsThuPM2-R6

McNeil International Symposium on Laws and their Applications for Sustainable Development

Thu Oct, 24 2019

Room: **Hermes (64/Mezz. F)**

Session Chairs: Maria **Cronin**; Dennis **Lee**; Session Monitor: TBA

15:55: [LawsThuPM209]

Brexit: Sustaining the future? (Part 1)

Keith Oliver¹; ¹Peters & Peters, London, United Kingdom;

Paper Id: 474 [\[Abstract\]](#)

16:20 Round Table

16:45: [LawsThuPM211]

Brexit: Sustaining the future? (Part 2)

Malcolm Mcneil¹; ¹Arent Fox, Los Angeles, United States;

Paper Id: 475 [\[Abstract\]](#)

17:10 Round Table

17:35 Break

SESSION 4:
LawsThuPM3-R6

McNeil International Symposium on Laws and their Applications for Sustainable Development

Thu Oct, 24 2019

Room: **Hermes (64/Mezz. F)**

Session Chairs: William S. **Wenzel, Esq.**; Session Monitor: TBA

17:40: [LawsThuPM313]

“Who is watching Who”: Cybersecurity, Privacy & Legal Professional Privilege

Diana Rhayem¹; ¹Diana Rhayem Law Office, Beirut, Lebanon;

Paper Id: 449 [\[Abstract\]](#)

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION:
GeomechanicsThuAM-R7

**Schrefler International Symposium on
Geomechanics and Applications for
Sustainable Development**

Thu Oct, 24 2019

Room: **Athena (105/Mezz. F)**

Session Chairs: Ugo **Galvanetto**; Dariusz **Gawin**; Session Monitor: TBA

11:20: [GeomechanicsThuAM01] Plenary

In Favour of Complexity in Modelling

Bernhard Schrefler¹ ; ¹Institute for Advanced Study –TUM,, Munich, Germany;

Paper Id: 377 [\[Abstract\]](#)

11:45: [GeomechanicsThuAM02] Plenary

**GEOMECHANICS FOR HYDROCARBON PRODUCTION: ON THE
IMPLEMENTATION OF PULSED ARC ELECTRICAL DISCHARGES FOR
STIMULATION PURPOSES**

Christian La Borderie¹ ; Youssef Fawaz¹ ; Pascale Senechal² ; Antoine Jacques³ ;

Gilles Pijaudier Cabot¹ ; ¹E2S UPPA, Université de Pau et des Pays de l'Adour,

Anglet, France; ²E2S UPPA, Université de Pau et des Pays de l'Adour, Pau, France;

³Total E&P, Pau, France;

Paper Id: 263 [\[Abstract\]](#)

12:10: [GeomechanicsThuAM03] Plenary

**Advanced Approaches for Porous Media – Contributions for Sustainable
Development beyond Geomaterials**

Wolfgang A. Wall¹ ; ¹Technical University of Munich, Garching, Germany;

Paper Id: 481 [\[Abstract\]](#)

12:35: [GeomechanicsThuAM04] Invited

**Numerical Investigation of Fault Activation in Underground Gas Storage
Reservoirs**

Massimiliano Ferronato¹ ; Andrea Franceschini² ; Matteo Frigo¹ ; Pietro Teatini¹ ;

Claudia Zoccarato¹ ; ¹University of Padova, Padova, Italy; ²Stanford University,

Stanford, United States;

Paper Id: 233 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
GeomechanicsThuPM1-R7

**Schrefler International Symposium on
Geomechanics and Applications for
Sustainable Development**

Thu Oct, 24 2019

Room: **Athena (105/Mezz. F)**

Session Chairs: Gilles **Pijaudier-Cabot**; Wolfgang A. **Wall**; Session Monitor: TBA

14:00: [GeomechanicsThuPM105] Plenary

Mechanics and Loss of Hyperelasticity of Geosynthetics Subjected to Chemical Exposure

Patrick Selvadurai¹ ; ¹McGill University, Montreal, Canada;

Paper Id: 181 [\[Abstract\]](#)

14:25: [GeomechanicsThuPM106] Keynote

Coupling phenomena in soil mechanics: Beyond failure of slopes

Manuel Pastor¹ ; Diego Manzanal² ; Miguel Martin Stickle³ ; Ángel Yagüe³ ; Saeed S.m. Tayyebi⁴ ; Miguel Molinos³ ; Jose Antonio Fernandez Merodo⁵ ; Pablo Mira⁶ ; Pedro Navas³ ; ¹Department of Applied Mathematics. ETS de Ingenieros de Caminos. Universidad Politécnica de Madrid, Madrid, Spain; ²ETS Camnos UPM, madrid, Spain; ³ETS Caminos UPM, Madrid, Spain; ⁴ETS Ingenieros de Caminos UPM, Madrid, Spain; ⁵IGME, Madrid, Spain; ⁶CEDEX, Centro de Estudios y Experimentacion de Obras Publicas, Madrid, Spain;

Paper Id: 179 [\[Abstract\]](#)

14:50: [GeomechanicsThuPM107]

Multiscale Materials Modeling of Metals from AToms to Components

Siegfried Schmauder¹ ; ¹University of Stuttgart, Lenningen, Germany;

Paper Id: 374 [\[Abstract\]](#)

15:15: [GeomechanicsThuPM108] Invited

Multiscale Simulations For The Development Of Advanced Composite Structures

Aleksandr Nemov¹ ; ¹Peter the Great St. Petersburg Polytechnic University, Saint-Petersburg, Russian Federation;

Paper Id: 256 [\[Abstract\]](#)

15:40 Break

SESSION 3:
GeomechanicsThuPM2-R7

**Schrefler International Symposium on
Geomechanics and Applications for
Sustainable Development**

Thu Oct, 24 2019

Room: **Athena (105/Mezz. F)**

Session Chairs: Patrick **Selvadurai**; Lorenzo **Sanavia**; Session Monitor: TBA

15:55: [GeomechanicsThuPM209] Plenary

Is coupling PD with FEM the way forward to solve in an efficient way crack propagation problems?

Tao Ni¹ ; Greta Ongaro² ; Pablo Seleson³ ; Mirco Zaccariotto⁴ ; **Ugo Galvanetto**² ;
¹Hohai University, Nanjing, China; ²University of Padova, Padova, Italy; ³Oak Ridge National Laboratory, Oak Ridge, United States; ⁴University of Padua, Padova, Italy;
Paper Id: 217 [\[Abstract\]](#)

16:20: [GeomechanicsThuPM210] Keynote

On Established Dynamic Front Propagation Regimes in Structured and Continuous Media.

Gennady Mishuris¹ ; Leonid Slepyan² ; ¹Aberystwyth University, Aberystwyth, United Kingdom; ²Tel-Aviv University, Ramat Aviv, Israel;
Paper Id: 247 [\[Abstract\]](#)

16:45: [GeomechanicsThuPM211] Keynote

Influence of Plastic Deformation and Inherent Anisotropy of Rocks on Hydraulic Fracturing Process

Qingdong Zhen¹ ; **Jianfu Shao**² ; ¹China University of Petroleum (East China), Qingdao, China; ²University of Lille, Villeneuve Ascq, France;
Paper Id: 267 [\[Abstract\]](#)

17:10: [GeomechanicsThuPM212] Keynote

Flow-like landslide mechanisms and modelling: filling the gap between hydraulic and geotechnical engineering

Sabatino Cuomo¹ ; ¹University of Salerno, Fisciano, Italy;
Paper Id: 459 [\[Abstract\]](#)

17:35 Break

SESSION 4:
GeomechanicsThuPM3-R7

**Schrefler International Symposium on
Geomechanics and Applications for
Sustainable Development**

Thu Oct, 24 2019

Room: **Athena (105/Mezz. F)**

Session Chairs: Herbert **Mang**; Andrew **Chan**; Session Monitor: TBA

17:40: [GeomechanicsThuPM313] Invited

**Convergence in Dynamic Hydraulic Fracturing Modeling: Step-Wise Crack
Advancement and Pressure Oscillations in Saturated Porous Media**

Mohammadreza Hirmand¹; **Mohammad Vahab**²; Katerina D. Papoulia³; Nasser Khalili⁴; ¹University of Waterloo, Waterloo, Canada; ²UNSW, Sydney, Australia; ³Applied Mathematics, University of Waterloo, Waterloo, Canada; ⁴University of New South Wales, Kensington, Australia;

Paper Id: 328 [\[Abstract\]](#)

18:05: [GeomechanicsThuPM314] Keynote

**Robust Simulation of Dynamic Hydraulic Fracturing in Naturally Fractured
Formations**

Mohammad Vahab¹; Mohammadreza Hirmand²; Katerina D. Papoulia³; Nasser Khalili⁴; ¹UNSW, Sydney, Australia; ²University of Waterloo, Waterloo, Canada; ³Applied Mathematics, University of Waterloo, Waterloo, Canada; ⁴University of New South Wales, Kensington, Australia;

Paper Id: 7 [\[Abstract\]](#)

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:
IronThuAM-R8

Usui International Symposium on Advanced Sustainable Iron and Steel Making (7th Intl. Symp. on Advanced Sustainable Iron and Steel Making)

Thu Oct, 24 2019

Room: **Ambrosia B (77/RF)**

Session Chairs: Akinori **Murao**; Lauri **Holappa**; Session Monitor: TBA

11:20: [IronThuAM01] Plenary

A General Vision for Reduction of Energy Consumption and CO2 Emissions from the Steel Industry

Lauri Holappa¹ ; ¹Professor emeritus, Espoo, Finland;

Paper Id: 480 [\[Abstract\]](#)

11:45: [IronThuAM02]

CO2 ultimate reduction in steelmaking process (COURSE50 project)

Natsuo Ishiwata¹ ; **Akinori Murao**² ; ¹JFE Steel Corporation, Chiyoda-ku, Japan; ²JFE Steel Corporation, Fukuyama, Japan;

Paper Id: 424 [\[Abstract\]](#)

12:10: [IronThuAM03] Keynote

Hydrogen and Natural Gas: The new alternatives for Siderurgy

Marcos De Campos¹ ; Jose Adilson De Castro¹ ; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil;

Paper Id: 334 [\[Abstract\]](#)

12:35: [IronThuAM04]

A Combined Thermochemical and Biotechnological Route to Produce Hydrogen Using Cassava Residues: Preliminary Results and Materials Characterization

Cintia De Faria Ferreira Carraro¹ ; Carla Cristina De Almeida Loures¹ ; Jose Adilson De Castro² ; ¹CEFET-Angra dos Reis, Angra dos Reis, Brazil; ²UFF - Federal Fluminense University, Volta Redonda, Brazil;

Paper Id: 227 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
IronThuPM1-R8

Usui International Symposium on Advanced
Sustainable Iron and Steel Making (7th Intl.
Symp. on Advanced Sustainable Iron and
Steel Making)

Thu Oct, 24 2019

Room: **Ambrosia B (77/RF)**

Session Chairs: Jose Adilson de Castro; Paulo Assis; Session Monitor: TBA

14:00: [IronThuPM105]

Hydrogen Shaft Furnace Process Using Bio-Self-Reducing Agglomerates

Jose Adilson De Castro¹ ; Giulio Antunes De Medeiros² ; Jonni Guiller Ferreira Madeira³ ; Elizabeth Oliveira⁴ ; Marcos De Campos¹ ; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil; ²UFF-Programa de Pos Graduação em Engenharia Metalurgica, Volta Redonda, Brazil; ³CEFET-Angra dos Reis, Angra dos Reis, Brazil; ⁴Center for Technological Education Celso Suckow da Fonseca, Valenca, Brazil;
Paper Id: 206 [\[Abstract\]](#)

14:25: [IronThuPM106]

Using agribusiness residues as energy supply for blast furnaces

Alex Campos¹ ; Paulo Assis² ; Tateo Usui³ ; ¹Federal University of Ouro Preto, Ouro Branco, Brazil; ²Federal University of Ouro Preto, Ouro Preto, Brazil; ³Osaka University, Ibaraki, Japan;
Paper Id: 393 [\[Abstract\]](#)

14:50: [IronThuPM107]

THE BAKING ACID TECHNIQUE ALTERNATIVE TO DECREASE THE PHOSPHORUS CONTENT OF THE IRON ORE

Jose Adilson De Castro¹ ; Leonardo Martins Da Silva² ; Marcos De Campos¹ ; Elizabeth Oliveira³ ; Rayla De Souza Caldas⁴ ; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil; ²Universidade Federal Fluminense, Volta Redonda, Brazil; ³Center for Technological Education Celso Suckow da Fonseca, Valenca, Brazil; ⁴UFF-Programa de Pos Graduação em Engenharia Metalurgica, Volta Redonda, Brazil;
Paper Id: 201 [\[Abstract\]](#)

15:15: [IronThuPM108]

Reduction of Material and Utilities Consumption by optimization of the usage at I- Blast Furnace

Padma Pal¹ ; **Basant Kumar Singh**¹ ; Bhaskar Ramdasu¹ ; Dhiren Patnaik² ; Vishwakarma Raj Kumar³ ; G.s.r. Murthy .³ ; Singh Anil Kumar⁴ ; ¹Tata Steel, Jamshedpur, India; ²Tata Steel Ltd., JAMSHEDPUR, India; ³Tata Steel Ltd., Jamshedpur, India; ⁴Tata Steel Ltd, Jamshedpur, India;
Paper Id: 221 [\[Abstract\]](#)

15:40 Break

SESSION 3:
IronThuPM2-R8

Usui International Symposium on Advanced Sustainable Iron and Steel Making (7th Intl. Symp. on Advanced Sustainable Iron and Steel Making)

Thu Oct, 24 2019 / Room:
Ambrosia B (77/RF)

Session Chairs: Moritoshi **Mizutani**; Shunsuke **Hori**; Session Monitor: TBA

15:55: [IronThuPM209]

Heat Loss Control in Stave Cooled Blast Furnace by Optimizing Gas Flow Pattern through Burden Distribution

Basant Kumar Singh¹; Bhaskar Ramdasu¹; **Padma Pal**¹; Dhiren Patnaik²; G.s.r. Murthy³; Vishwakarma Raj Kumar³; Kumar Lal Santosh³; Jaya Krishna P.³; ¹Tata Steel, Jamshedpur, India; ²Tata Steel Ltd., JAMSHEDPUR, India; ³Tata Steel Ltd., Jamshedpur, India;

Paper Id: 220 [\[Abstract\]](#)

16:20: [IronThuPM210]

In-Situ Evaluation for Crack Generation and Propagation Behavior of Iron Ore Burden during Low Temperature Reduction by Applying Acoustic Emission Method

Moritoshi Mizutani¹; Tsunehisa Nishimura²; Takashi Orimoto¹; Kenichi Higuchi¹; Seiji Nomura¹; Koji Saito³; Eiki Kasai⁴; ¹Nippon Steel Corp., Futtsu, Japan; ²Nippon Steel Corp., Futtsu, Japan; ³Nippon Steel & Sumitomo Metals Corp., Futtsu City, Japan; ⁴Graduate School of Environmental Studies, Tohoku University, Sendai, Japan;

Paper Id: 21 [\[Abstract\]](#)

16:45: [IronThuPM211]

Effect of Ore Contraction Behavior on Permeability of Coke Slit Layer in Cohesive Zone

Kazuhira Ichikawa¹; Toshiyuki Hirose²; Takeshi Sato³; Taihei Nouchi³; Kiyoshi Fukada²; ¹, Chiba, Japan; ²JFE Steel Corporation, Fukuyama, Japan; ³JFE Steel Corporation, Chiba, Japan;

Paper Id: 87 [\[Abstract\]](#)

17:10: [IronThuPM212]

Gas Permeability Improvement at the Lower Part of Blast Furnace by Converter Slag Injection from Tuyere

Shunsuke Hori¹; Akito Kasai¹; Rikizo Tadai¹; Kentaro Nozawa¹; ¹KOBE STEEL, LTD., Kakogawa, Japan;

Paper Id: 420 [\[Abstract\]](#)

17:35 Break

SESSION 4:
IronThuPM3-R8

Usui International Symposium on Advanced Sustainable Iron and Steel Making (7th Intl. Symp. on Advanced Sustainable Iron and Steel Making)

Thu Oct, 24 2019 / Room:

Ambrosia B (77/RF)

Session Chairs: Marcos **de Campos**; Sergey **Komarov**; Session Monitor: TBA

17:40: [IronThuPM313] Keynote

Control of Interfacial Phenomena in Pyrometallurgical Processes through the Use of Acoustic Oscillations

Sergey Komarov¹ ; Takuya Yamamoto¹ ; ¹Tohoku University, Sendai, Japan;

Paper Id: 331 | [\[Abstract\]](#)

18:05: [IronThuPM314]

From Tataara furnace to Tamahagane Steel and the Japanese Sword

Marcos De Campos¹ ; Jose Adilson De Castro¹ ; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil;

Paper Id: 205 | [\[Abstract\]](#)

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:
ChemistryThuAM-R9

**Tressaud International Symposium on Solid
State Chemistry for Applications and
Sustainable Development**

Thu Oct, 24 2019

Room: **Aphrodite A (100/Gr. F)**

Session Chairs: Alain **Tressaud**; Matthew Jonathan **Rosseinsky**; Session Monitor:
TBA

11:20: [ChemistryThuAM01] Plenary

Faceted rare earth and alkaline earth oxide perovskite nanoparticles as catalyst supports

Kenneth Poeppelmeier¹; ¹Northwestern University, Evanston, United States;

Paper Id: 39 [\[Abstract\]](#)

11:45: [ChemistryThuAM02] Keynote

Innovative Materials for oxygen electrodes of Solid Oxide Cells

Jean-claude Grenier¹; ¹CNRS, University of Bordeaux, ICMCB, PESSAC Cedex, France;

Paper Id: 95 [\[Abstract\]](#)

12:10: [ChemistryThuAM03]

Fluorooxoborates: Novel Candidates for Deep-UV Nonlinear Optical Materials

Shilie Pan¹; ¹Xinjiang Technical Institute of Physics & Chemistry, Chinese Academy of Sciences, Urumqi, China;

Paper Id: 5 [\[Abstract\]](#)

12:35: [ChemistryThuAM04] Keynote

Electronic Structure and Energy Applications of Layered Materials

Tekalign Terfa Debela¹; Hafiz Ghulam Abbas²; **Hong Seok Kang**³; ¹Jeonju University, Jeonju, South Korea; ²Chonbuk National University, Jeonju, South Korea; ³Jeonju University, Chonju, South Korea;

Paper Id: 396 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
ChemistryThuPM1-R9

Tressaud International Symposium on Solid
State Chemistry for Applications and
Sustainable Development

Thu Oct, 24 2019

Room: **Aphrodite A (100/Gr. F)**

Session Chairs: Kenneth **Poepelmeier**; Jean-Claude **Grenier**; Session Monitor:
TBA

14:00: [ChemistryThuPM105] Plenary

Oxygen Incorporation and Release Behaviors in Perovskite-Structure Oxides

Yuichi Shimakawa¹ ; ¹Kyoto University, Uji, Japan;

Paper Id: 157 [\[Abstract\]](#)

14:25: [ChemistryThuPM106] Keynote

Fe²⁺/Fe³⁺: Couple, an Ideal Redox for Topochemical Reactions

Olivier Mentre¹ ; ¹UCCS, Villeneuve d'Ascq, France;

Paper Id: 315 [\[Abstract\]](#)

14:50: [ChemistryThuPM107] Invited

Color Tuning for Electrochromic Displays

Aline Rougier¹ ; Issam Mjejri² ; Romain Futsch³ ; ¹Institu de Chimie de la Matière
Condensée de Bordeaux, Pessac, France; ²ICMCB, Pessac, France; ³ICMCB,
LUQUET DURANTON, Pessac, France;

Paper Id: 400 [\[Abstract\]](#)

15:15: [ChemistryThuPM108]

Towards a New Generation of Gold-Based Pigments

David Sallagoity¹ ; Lydia Roudier¹ ; **Jerome Majimel**¹ ; ¹UGIEL / CNRS, Univ.
Bordeaux, Bordeaux INP, ICMCB, UMR 5026, F-33600 Pessac, France, PESSAC,
France;

Paper Id: 276 [\[Abstract\]](#)

15:40 Break

SESSION 3:
ChemistryThuPM2-R9

Tressaud International Symposium on Solid
State Chemistry for Applications and
Sustainable Development

Thu Oct, 24 2019

Room: **Aphrodite A (100/Gr. F)**

Session Chairs: Teofilo **Rojo**; Aline **Rougier**; Session Monitor: TBA

15:55: [ChemistryThuPM209]

Computationally-Enabled Routes to New Inorganic Materials

Matthew Jonathan Rosseinsky¹; ¹University of Liverpool, Liverpool, United Kingdom;

Paper Id: 361 [\[Abstract\]](#)

16:20: [ChemistryThuPM210] Invited

Optical Properties and Applications of Non-Oxide Glasses

Jean-luc Adam¹; ¹Université de Rennes 1 - CNRS, Rennes, France;

Paper Id: 16 [\[Abstract\]](#)

16:45: [ChemistryThuPM211]

Aspects of MOF Chemistry Related to the Nuclear Energy Field: Chemistry of Actinides Carboxylates and Use of MOFs for the Capture Radioactive Elements.

Thierry Loiseau¹; ¹University of Lille, Villeneuve d'Ascq, France;

Paper Id: 210 [\[Abstract\]](#)

17:10: [ChemistryThuPM212]

Preparation, characterization and application of the hydrotalcite nanoparticles derived catalysts in dry reforming of methane

Zoulikha Abdelsadek¹; Patrick J. Masset²; ¹Laboratory of Chemistry and Natural Gas, Faculty of Chemistry, USTHB, Institute of Electrical and Electronics Engineering, University of M'hamed Bougara, ALgiers, Algeria; ²Technallium Engineering & Consulting, Steinberg am See, Germany;

Paper Id: 197 [\[Abstract\]](#)

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

Friday

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 5:
PhysicalFriAM-R10

**Vayenas International Symposium on Physical
Chemistry and its applications for sustainable
development**

Fri Oct, 25 2019

Room: **Aphrodite B (100/Gr. F)**

Session Chairs: Ioannis **Yentekakis**; Philippe **Vernoux**; Session Monitor: TBA

11:20: [PhysicalFriAM01] Plenary

Electrochemical Promotion of Catalysis over Dispersed Nanoparticles

Philippe Vernoux¹; ¹University LYON 1, Lyon, France;

Paper Id: 10 [\[Abstract\]](#)

11:45: [PhysicalFriAM02] Keynote

**Electrochemical Promotion of Catalysis: A Journey Through the Past Thirty
Years**

Symeon Bebelis¹; **Constantinos Vayenas**²; ¹Department of Chemical Engineering,
University of Patras, Patras, Greece; ²University of Patras, Patras, Greece;

Paper Id: 109 [\[Abstract\]](#)

12:10: [PhysicalFriAM03] Keynote

**An Additional Innovative Effect of the Effective-Double-Layer in Heterogeneous
Catalysis: Stabilization of Catalysts' Nanoparticles Against Thermal Sintering**

Ioannis Yentekakis¹; ¹Technical University of Crete, Chania, Greece;

Paper Id: 127 [\[Abstract\]](#)

12:35 Round Table

13:00 Lunch

SESSION 6:
PhysicalFriPM1-R10

Vayenas International Symposium on Physical
Chemistry and its applications for sustainable
development

Fri Oct, 25 2019

Room: **Aphrodite B (100/Gr. F)**

Session Chairs: Katerina **Aifantis**; Eftychia **Martino**; Session Monitor: TBA

14:00: [PhysicalFriPM105] Plenary

The Mechanics of Deep Earthquakes: Symmetry Breaking

Xanthippi Markenscoff¹; ¹University of California, San Diego, San Diego, United States;

Paper Id: 359 [\[Abstract\]](#)

14:25: [PhysicalFriPM106] Plenary

Induced Electrochemical Codeposition of Rhenium and Tungsten Alloys with Iron-Group (and other) Metals

Noam Eliaz¹; Eliezer Gileadi²; ¹Dept. Materials Science and Engineering, Tel-Aviv University, Tel Aviv, Israel; ²School of Chemistry, Tel-Aviv University, Tel Aviv 6997801, Israel;

Paper Id: 12 [\[Abstract\]](#)

14:50: [PhysicalFriPM107] Invited

Next Generation Electrodes for Na-Ion Batteries

Katerina Aifantis¹; Pu Hu²; ¹University of Florida, Gainesville, United States; ²Univ of Florida, Gainesville, Greece;

Paper Id: 324 [\[Abstract\]](#)

15:15: [PhysicalFriPM108]

Experimental Investigation and Mathematical Modeling of Triode PEM Fuel Cells

Eftychia Martino¹; **Alexandros Katsaounis**²; **Constantinos Vayenas**³; ¹University of Patras, Dept. of Chemical Engineering, Patras, Achaia, Greece; ²Department of Chemical Engineering, University of Patras, Patras, Greece; ³University of Patras, Patras, Greece;

Paper Id: 58 [\[Abstract\]](#)

15:40 Break

SESSION 7:
PhysicalFriPM2-R10

**Vayenas International Symposium on Physical
Chemistry and its applications for sustainable
development**

Fri Oct, 25 2019

Room: **Aphrodite B (100/Gr. F)**

Session Chairs: **Ilan Riess**; Pasquale **Bosso**; Session Monitor: TBA

15:55: [PhysicalFriPM209] Plenary

Gradient Theory and Mg-Alloys

Elias Aifantis¹ ; ¹Aristotle University of Thessaloniki, Thessaloniki, Greece;

Paper Id: 444 [\[Abstract\]](#)

16:20: [PhysicalFriPM210] Plenary

Gravity, Relativity and the Bohr Model

Ilan Riess¹ ; ¹Technion Israel Institute of Technology Faculty of Physics, Haifa, Israel;

Paper Id: 31 [\[Abstract\]](#)

16:45: [PhysicalFriPM211] Invited

Quantum Gravity Phenomenology from the Generalized Uncertainty Principle

Pasquale Bosso¹ ; ¹University of Lethbridge, Lethbridge, Canada;

Paper Id: 288 [\[Abstract\]](#)

17:10: [PhysicalFriPM212]

Computation of the Neutrino Flavor Masses via the Rotating Lepton Model of Hadrons and Bosons

Dionysios Tsousis¹ ; **Constantinos Vayenas**¹ ; **Dimitrios Grigoriou**¹ ; ¹University of Patras, Patras, Greece;

Paper Id: 65 [\[Abstract\]](#)

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:
BatteryFriAM-R11

**6th Intl. Symp. on Sustainable Secondary
Battery Manufacturing and Recycling**

Fri Oct, 25 2019

Room: **Ariadne (80/Mezz. F)**

Session Chairs: Katerina **Aifantis**; Rumen **Tomov**; Session Monitor: TBA

11:20: [BatteryFriAM01]

Future Thinking in Batteries

Vasant Kumar¹; ¹University of Cambridge, Cambridge, United Kingdom;

Paper Id: 336 [\[Abstract\]](#)

11:45: [BatteryFriAM02] Keynote

Flux-grown Crystals Science and Engineering toward Next-generation Batteries

Katsuya Teshima¹; ¹Center for Energy & Environmental Science, Department of Materials Chemistry, Shinshu University, Nagano, Japan;

Paper Id: 149 [\[Abstract\]](#)

12:10: [BatteryFriAM03] Invited

Na-Ion Batteries for Large Scale Applications: Challenges and Opportunities

Teofilo Rojo¹; ¹CIC energiGUNE, Vitoria-Gasteiz, Spain;

Paper Id: 92 [\[Abstract\]](#)

12:35: [BatteryFriAM04]

Novel Carbon - Ultrafine Silicon Composite Anode for High-Performance Lithium-Ion Batteries

Dmitry Yarmolich¹; Dzianis Yarmolich²; Yaroslav Odarchenko³; Carmen Murphy⁴; Enrico Petrucco⁴; **Vasant Kumar**⁵; **Rumen Tomov**⁵; ¹Plasma App Ltd, OX11 0QX, United Kingdom; ²Plasma App Ltd, Oxford, OX11 0QX, United Kingdom; ³Plasma App Ltd, Oxford OX11 0QX, United Kingdom; ⁴Johnson Matthey Battery Materials, Reading RG4 9NH, United Kingdom; ⁵University of Cambridge, Cambridge, United Kingdom;

Paper Id: 352 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
BatteryFriPM1-R11

**6th Intl. Symp. on Sustainable Secondary
Battery Manufacturing and Recycling**

Fri Oct, 25 2019

Room: **Ariadne (80/Mezz. F)**

Session Chairs: Claudio **Capiglia**; Guoran **Li**; Session Monitor: TBA

14:00: [BatteryFriPM105] Plenary

Where Will the Waste Go?

Athan Fox¹; Miles Freeman²; ¹Aurelius Environmental, Tipton, United Kingdom;

²Aurelius Environmental, Dudley, United Kingdom;

Paper Id: 349 [\[Abstract\]](#)

14:25: [BatteryFriPM106] Keynote

NovoPb: A New, Complete and Sustainable Recycling Process for High-Purity Lead Oxide

Deise Menezes Santos¹; Francklin Jonas De Paula²; Yandiará Larissa Barros³; Matheus Carvalho⁴; Wanderson Souza Da Silva⁵; Vasant Kumar⁶; ¹Universidade Federal do Espírito Santo, Vitória, Brazil;

²Faculdade Pitágoras, Governador Valadares, Brazil; ³Instituto Federal do Espírito Santo, Vitória, Brazil; ⁴Instituto Federal de Minas Gerais, Governador Valadares, Brazil; ⁵Universidade Federal do Espírito Santo, Vitória, Brazil; ⁶University of Cambridge, Cambridge, United Kingdom;

Paper Id: 258 [\[Abstract\]](#)

14:50: [BatteryFriPM107]

Adjustable Interlayer Spacing for Layered Titanate for Potassium Storage

Cheng-yen Lao¹; Vasant Kumar¹; Yingjun Liu¹; ¹University of Cambridge, Cambridge, United Kingdom;

Paper Id: 343 [\[Abstract\]](#)

15:15: [BatteryFriPM108]

Inkjet Printing of PEDOT/PEO Semi-Interpenetrating Networks for Highly Scaleable Supercapacitor Electrodes

Paulina Librizzi¹; Vasant Kumar²; ¹University of Cambridge - Department of Materials Science and Metallurgy, Cambridge, United Kingdom; ²University of Cambridge, Cambridge, United Kingdom;

Paper Id: 411 [\[Abstract\]](#)

15:40 Break

SESSION 3:
BatteryFriPM2-R11

**6th Intl. Symp. on Sustainable Secondary
Battery Manufacturing and Recycling**

Fri Oct, 25 2019

Room: **Ariadne (80/Mezz. F)**

Session Chairs: Katsuya **Teshima**; Deise **Menezes Santos**; Session Monitor: TBA

15:55: [BatteryFriPM209]

Production of Ultra-Pure Lead Citrate from Spent Lead-Acid Battery Paste using a Cost-Effective, Eco-Friendly Process

Vimalnath Selvaraj¹; Marcel Yao¹; Robert Liu²; **Rumen Tomov**¹; **Vasant Kumar**¹; Peter Knight¹; Steve Andrew²; Spencer Lowe²; Athan Fox³; Miles Freeman²; Johdie Harris²; ¹University of Cambridge, Cambridge, United Kingdom; ²Aurelius Environmental, Dudley, United Kingdom; ³Aurelius Environmental, Tipton, United Kingdom;

Paper Id: 415 [\[Abstract\]](#)

16:20: [BatteryFriPM210] Keynote

Overview on Lithium Sulphur Batteries Technologies

Claudio Capiglia¹; ¹Recruit R&D, Tokyo, Japan;

Paper Id: 15 [\[Abstract\]](#)

16:45: [BatteryFriPM211] Invited

Size Effects in Nanostructured Li-Ion Batteries

Sundararajan Natarajan¹; Katerina Aifantis²; ¹Indian Institute of Technology Madras, Chennai, India; ²University of Florida, Gainesville, United States;

Paper Id: 355 [\[Abstract\]](#)

17:10: [BatteryFriPM212]

Graphene-based lithium-sulfur batteries

Liam Bird¹; Kai Xi¹; **Cheng-yen Lao**¹; **Vasant Kumar**¹; Andrea Ferrari¹; Caterina Ducati¹; ¹University of Cambridge, Cambridge, United Kingdom;

Paper Id: 453 [\[Abstract\]](#)

17:35 Break

SESSION 4:
BatteryFriPM3-R11

**6th Intl. Symp. on Sustainable Secondary
Battery Manufacturing and Recycling**

Fri Oct, 25 2019

Room: **Ariadne (80/Mezz. F)**

Session Chairs: Vimalnath **Selvaraj**; Teofilo **Rojo**; Session Monitor: TBA

17:40: [BatteryFriPM313] Plenary

Metallic 2D Materials for Energy Storage

Manish Chowalla¹ ; ¹University of Cambridge, Cambridge, United Kingdom;

Paper Id: 406 [\[Abstract\]](#)

18:05: [BatteryFriPM314] Invited

Molten Salt Preparation of Nanostructured Materials for Energy Applications

Ali Reza Kamali¹ ; ¹Energy and Environmental Materials Research Centre (E2MC),

School of Metallurgy, Northeastern University, Shenyang 110819, China;

Paper Id: 417 [\[Abstract\]](#)

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 5:
MoltenFriAM-R1

Angell International Symposium on Molten Salt, Ionic & Glass-forming Liquids: Processing and Sustainability (7th Intl. Symp. on Molten Salt, Ionic & Glass-forming Liquids: Processing and Sustainability).

Fri Oct, 25 2019

Room: **Ambrosia A (77/RF)**

Session Chairs: Masayoshi **Watanabe**; Andrzej **Grzybowski**; Session Monitor: TBA

11:20: [MoltenFriAM01] Keynote

A Close Look at Ionic Liquid Interfaces in Ultrathin Films by X-Ray Photoelectron Spectroscopy

Matthias Lexow¹; **Florian Maier**¹; Hans-peter Steinrück¹; ¹Chair Physical Chemistry II, FAU University Erlangen-Nürnberg, Erlangen, Germany;

Paper Id: 148 [\[Abstract\]](#)

11:45: [MoltenFriAM02] Invited

Hydrated Ionic Liquids for Solubilisation and Refolding of Aggregated Proteins

Kyoko Fujita¹; Roka Nakano²; Risa Nakaba¹; Hiroyuki Ohno²; Nobuhumi Nakamura²; Kimiyoshi Ichida¹; ¹Tokyo University of Pharmacy and Life Sciences, Tokyo, Japan; ²Tokyo University of Agriculture and Technology, Tokyo, Japan;

Paper Id: 123 [\[Abstract\]](#)

12:10: [MoltenFriAM03] Keynote

Enhancing the Li/Na-Ion Battery Performances by Disorder/Order Engineering

Yuanzheng Yue¹; ¹Aalborg University, Aalborg, Denmark;

Paper Id: 120 [\[Abstract\]](#)

12:35: [MoltenFriAM04]

Physico-chemical bases of electrochemical synthesis of carbonaceous materials in molten salts.

Inessa Novoselova¹; ¹Institute of General and Inorganic Chemistry, Kyiv, Ukraine;

Paper Id: 43 [\[Abstract\]](#)

13:00 LUNCH

SESSION 6:
MoltenFriPM1-R1

**Angell International Symposium on Molten
Salt, Ionic & Glass-forming Liquids:
Processing and Sustainability (7th Intl. Symp.
on Molten Salt, Ionic & Glass-forming Liquids:
Processing and Sustainability).**

Fri Oct, 25 2019

Room: **Ambrosia A (77/RF)**

Session Chairs: Yizhak **Marcus**; Yuanzheng **Yue**; Session Monitor: TBA

14:00: [MoltenFriPM105] Invited

Powerful Predictive Capabilities of Density Scaling: From New Invariants to the Arrhenius Law Breakdown in both the Normal and Supercooled Liquid States

Andrzej Grzybowski¹; Erik Thoms¹; Agnieszka Jedrzejowska¹; Sebastian Pawlus¹; Marian Paluch¹; ¹Institute of Physics, University of Silesia in Katowice, Chorzow, Poland;

Paper Id: 19 [\[Abstract\]](#)

14:25: [MoltenFriPM106] Plenary

From Ionic Liquids to Solvate Ionic Liquids and Beyond

Masayoshi Watanabe¹; ¹Yokohama National University, Yokohama, Japan;

Paper Id: 34 [\[Abstract\]](#)

14:50: [MoltenFriPM107]

Forecast of geometrical structure for T-x-y-z diagram Li,Na,Th,U||F

Vasily Lutsyk¹; Anna Zelenaya¹; Maria Parfenova²; Marina Lamueva³; ¹Institute of Physical Materials Science SB RAS, Ulan-Ude, Russian Federation; ²Tomsk State University of Control Systems and Radio-electronics, Tomsk, Russian Federation; ³Institute of Physical Materials Science, Ulan-Ude, Russian Federation;

Paper Id: 173 [\[Abstract\]](#)

15:15: [MoltenFriPM108]

Creation of Functional Materials in Molten Salts Through Surface Engineering and Their Application

Sergey Kuznetsov¹; ¹Institute of Chemistry, Kola Science Centre RAS, Apatity, Russian Federation;

Paper Id: 224 [\[Abstract\]](#)

15:40 Break

SESSION 7:
MoltenFriPM2-R1

**Angell International Symposium on Molten
Salt, Ionic & Glass-forming Liquids:
Processing and Sustainability (7th Intl. Symp.
on Molten Salt, Ionic & Glass-forming Liquids:
Processing and Sustainability).**

Fri Oct, 25 2019

Room: **Ambrosia A (77/RF)**

Session Chairs: Rasmus **Fehrmann**; Masahiro **Yoshizawa-Fujita**; Session Monitor:
TBA

15:55: [MoltenFriPM209] Keynote

Poly(ionic liquids) as a platform for CO₂ capture and transformation

Sandra Einloft¹; Franciele Bernard¹; ¹PUCRS, Porto Alegre, Brazil;

Paper Id: 116 [\[Abstract\]](#)

16:20: [MoltenFriPM210]

Variants of T-x-y-z Diagrams for Subsystems LiF-LiCl-NaCl-UCI₃, LiF-NaF-NaCl-UC₃, 7NaF-6UF₄-LiF-UF₄-UCI₃, 3NaF-UF₄-LiF-NaF-UCI

Vasily Lutsyk¹; Vera Vorob'eva¹; Maria Parfenova²; Marina Lamueva³; ¹Institute of Physical Materials Science SB RAS, Ulan-Ude, Russian Federation; ²Tomsk State University of Control Systems and Radio-electronics, Tomsk, Russian Federation; ³Institute of Physical Materials Science, Ulan-Ude, Russian Federation;

Paper Id: 125 [\[Abstract\]](#)

16:45: [MoltenFriPM211] Keynote

Catalysis and Gas Separation by Supported Ionic Liquids

Rasmus Fehrmann¹; Leonard Schill¹; Anders Riisager²; Jakob Marinkovic³; ¹DTU Chemistry, Lyngby, Denmark; ²DTU Chemistry, Kgs. Lyngby, Denmark; ³Technical University of Denmark, Department of Chemistry, Lyngby, Denmark;

Paper Id: 312 [\[Abstract\]](#)

17:10: [MoltenFriPM212]

Carbon Dioxide Capture and Transformation in Ionic Liquids

Jairton Dupont¹; Muhammad Qadir¹; Nathalia Simon¹; Marcileia Zanatta¹; ¹UFRGS, Porto Alegre, Brazil;

Paper Id: 151 [\[Abstract\]](#)

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 3:
AdvancedMaterialsFriAM-R2

**5th Intl. Symp. on New and Advanced
Materials and Technologies for Energy,
Environment and Sustainable Development**

Fri Oct, 25 2019

Room: **Leda (99/Mezz. F)**

Session Chairs: Ivanka **Netinger Grubesa**; Nikoloz Chikhradze; Session Monitor:
TBA

11:20: [AdvancedMaterialsFriAM01] Keynote

Fabrication of High Entropy Alloys Shock Wave Consolidation of Ti-Ni-Fe-W-Cu Powders

Nikoloz Chikhradze¹; **Fernand Marquis**²; Mikheil Chikhradze³; Guram Abashidze¹; Davit Tsverava⁴; ¹G. Tsulukidze Mining Institute, Tbilisi, Georgia; ²San Diego State University, San Diego, United States; ³Georgian Technical University, Tbilisi, Georgia; ⁴LEPL Grigol Tsulukidze Mining Institute/M.Sc. Student of Georgian Technical University, Tbilisi, Georgia;

Paper Id: 337 [\[Abstract\]](#)

11:45: [AdvancedMaterialsFriAM02] Invited

Bioinspired Materials with Micro and Nanostructured Gradient Surfaces to Control Dynamic Wettability

Yongmei Zheng¹; ¹Beihang University, Beijing, China;

Paper Id: 77 [\[Abstract\]](#)

12:10: [AdvancedMaterialsFriAM03]

Agricultural Biomass Ash in Civil Engineering - From Energy to Sustainable Development

Ivana Barisic¹; **Ivanka Netinger Grubesa**¹; Tihomir Dokšanović²; Hrvoje Draganić²; Mirjana Malešev³; Slobodan Supić³; Miroslava Radeka³; Vlastimir Radonjanin³; ¹Faculty of Civil Engineering and Architecture Osijek, VAT HR04150850819, INTERREG IPA CBC Croatia-Serbia ECO Build HR-RS38, Osijek, Croatia; ²Faculty of Civil Engineering and Architecture Osijek, University in Osijek, Osijek, Croatia; ³Department of Civil Engineering and Geodesy, Faculty of Technical Sciences, University in Novi Sad, Novi Sad, Serbia and Montenegro;

Paper Id: 40 [\[Abstract\]](#)

12:35: [AdvancedMaterialsFriAM04]

Surface Tailored Organic Molecule Copolymerized Silica Nanoparticles

Gabor Patonay¹; Eman Alsolmy¹; Gala Chapman¹; Walid Abdelwahab¹; ¹Georgia State University, Atlanta, United States;

Paper Id: 24 [\[Abstract\]](#)

13:00 LUNCH

SESSION 4:

AdvancedMaterialsFriPM1-R2

**5th Intl. Symp. on New and Advanced
Materials and Technologies for Energy,
Environment and Sustainable Development**

Fri Oct, 25 2019

Room: **Leda (99/Mezz. F)**

Session Chairs: Lev **Rapoport**; Teofilo **Rojo**; Session Monitor: TBA

14:00: [AdvancedMaterialsFriPM105] Keynote

Low Cost, Corrosion Resistant and Microwave-Absorbing Coatings

Tetiana Prikhna¹ ; Mykola Monastyrov² ; **Fernand Marquis**³ ; Viktor Moshchil¹ ; Olena Prysiachna⁴ ; Bernd Halbedel⁵ ; Pavlo Barvitskiy¹ ; ¹Institute for Superhard Materials, Kiev, Ukraine; ²Open International University of Human Development Ukraine, Kiev, Ukraine; ³San Diego State University, San Diego, United States; ⁴Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kiev, Ukraine; ⁵Technische Universitat Ilmenau, Ilmenau, Germany;

Paper Id: 117 [\[Abstract\]](#)

14:25: [AdvancedMaterialsFriPM106]

Evolution of Microstructure of Surface Layers of Silver, Copper, Nickel and Aluminum Under Friction in Lubricated Conditions

Lev Rapoport¹ ; Alexey Moshkovich² ; Inna Popov³ ; **Lev Rapoport**⁴ ; ¹Holon Institute of technology, Holon, Israel; ², Holon, Israel; ³The Hebrew University of Jerusalem, Jerusalem, Israel; ⁴Holon Institute of Technology, Holon, Israel;

Paper Id: 373 [\[Abstract\]](#)

14:50: [AdvancedMaterialsFriPM107] Invited

Advanced Materials for Na-Ion Batteries: A Promising Technology

Nicholas Drewett¹ ; Nagore Ortiz Vitoriano¹ ; Elena Gonzalo¹ ; Galceran Montserrat¹ ; Damien Saurel¹ ; Miguel Angel Munoz Marquez¹ ; Juan Luis Gomez Camer¹ ; **Teofilo Rojo**¹ ; ¹CIC energiGUNE, Vitoria-Gasteiz, Spain;

Paper Id: 170 [\[Abstract\]](#)

15:15: [AdvancedMaterialsFriPM108]

Coupling of Mechanochemical Synthesis with Enhanced Microwave Chemistry towards Biogas Dry Reforming Catalysts

Kyriaki Polychronopoulou¹ ; **Sara Alkhoori**¹ ; ¹Khalifa University, Abu Dhabi, United Arab Emirates;

Paper Id: 252 [\[Abstract\]](#)

15:40 Break

SESSION 5:
AdvancedMaterialsFriPM2-R2

**5th Intl. Symp. on New and Advanced
Materials and Technologies for Energy,
Environment and Sustainable Development**

Fri Oct, 25 2019

Room: **Leda (99/Mezz. F)**

Session Chairs: Tetiana **Prikhna**; Ruiyuan **Liu**; Session Monitor: TBA

15:55: [AdvancedMaterialsFriPM209] Keynote

High Temperature Stability in Oxygen and Hydrogen Environments and Wear Resistance of Ti,Nb-Al-C MAX Phases

Tetiana Prikhna¹; Tetiana Serbenyuk²; Vladimir Sverdun²; Fernand Marquis³; Orest Ostash⁴; Viktoriya Podhurska⁵; Alexander Kuprin⁶; Myroslav Karpets¹; Semyon Ponomarov⁷; ¹Institute for Superhard Materials, Kiev, Ukraine; ²Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kiev, Ukraine; ³San Diego State University, San Diego, United States; ⁴Karpenko Physical-Mechanical Institute of the National Academy of Sciences of Ukraine, Lviv, Ukraine; ⁵Physico-Mechanical Institute of the National Academy of Sciences of Ukraine, Lviv, Ukraine; ⁶National Science Center Kharkov Institute of Physics and Technology, Kharkov, Ukraine; ⁷Institute of Semiconductor Physics, Kiev, Ukraine;

Paper Id: 107 [\[Abstract\]](#)

16:20: [AdvancedMaterialsFriPM210] Keynote

A Convenient Way to Synthesize of Nanosized Catalysts in Quasi-intramolecular Solid Phase Redox Reactions

Laszlo Kotai¹; Fernanda Paiva Franguelli²; Kende Beres³; Hanna Solt¹; Peter Nemeth¹; Zoltan Homonnay⁴; Istvan E. Sajo⁵; ¹Research Centre for Natural Sciences, Hungarian Academy of Sciences, Budapest, Hungary; ²Hungary and Budapest University of Technology and Economics, Budapest, Hungary; ³Hungary and Institute of Chemistry, ELTE Eotvos Lorand University, Budapest, Hungary; ⁴Institute of Chemistry, ELTE Eotvos Lorand University, Budapest, Hungary; ⁵Janos Szentagothai Research Centre, University of Pecs, Budapest, Hungary;

Paper Id: 289 [\[Abstract\]](#)

16:45: [AdvancedMaterialsFriPM211] Invited

Materials Research Society of Serbia and International Institute for the Science of Sintering Fostering Materials Research in Serbia

Dragan Uskokovic¹; ¹Materials Research Society of Serbia, Belgrade, Serbia and Montenegro;

Paper Id: 194 [\[Abstract\]](#)

17:10: [AdvancedMaterialsFriPM212]

Cycloaddition of Carbon Dioxide to Cyclic Carbonate Catalyzed by Silica Xerogel Functionalized with Imidazolium-Based Ionic Liquids

Daniela Rodrigues¹; **Leonardo Dos Santos**¹; Franciele Bernard¹; Ingrid Pinto¹; Sandra Einloft¹; ¹PUCRS, Porto Alegre, Brazil;

Paper Id: 66 [\[Abstract\]](#)

17:35 Break

SESSION 6:
AdvancedMaterialsFriPM3-R2

**5th Intl. Symp. on New and Advanced
Materials and Technologies for Energy,
Environment and Sustainable Development**

Fri Oct, 25 2019 / Room: **Leda**
(99/Mezz. F)

Session Chairs: Anka **Trajkovska Petkoska**; Yongmei **Zheng**; Session Monitor:
TBA

17:40: [AdvancedMaterialsFriPM313]

Nitrite Elimination by Pd-Based Catalysts using Formic Acid as a Reducing Agent

Thiago Favarini Beltrame¹ ; Fernanda Zoppas² ; Marco Antonio Siqueira Rodrigues³ ; Vanina Aghemo⁴ ; Eduardo Miro² ; Fernanda Albana Marchesini² ; **Andrea Moura Bernardes**¹ ; ¹UFRGS, Porto Alegre, Brazil; ²UNL, Santa Fe, Argentina; ³FEEVALE, Porto Alegre, Brazil; ⁴Instituto de Investigaciones en Catálisis y Petroquímica INCAPE, UNL, CONICET, Santa Fe, Argentina;

Paper Id: 68 [[Abstract](#)]

18:05: [AdvancedMaterialsFriPM314] Keynote

Application of Powerful Catalyzing agent for Chemical and Biological Processes Based on Flying Jet Plasma Torch

Wameath Abdul Majeed¹ ; ¹University of Nizwa, Nizwa, Oman;

Paper Id: 25 [[Abstract](#)]

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 5:
SISAMFriAM-R3

D: Sustainable resources

Kobe International Symposium on Science of Innovative and Sustainable Alloys and Magnets (5th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Fri Oct, 25 2019

Room: **Akamas C (140/Gr. F)**

Session Chairs: George **Hadjipanayis**; Session Monitor: TBA

11:20: [SISAMFriAM01] Keynote

Enabling a circular economy ecosystem for NdFeB magnets: Which measures are needed and what is really feasible?

Carlo Burkhardt¹ ; **Spomenka Kobe**² ; Benjamin Podmiljsak³ ; ¹Pforzheim University, Pforzheim, Germany; ²Josef Stefan Institute, Ljubljana, Slovenia; ³Jozef Stefan Institute, Ljubljana, Slovenia;

Paper Id: 124 [\[Abstract\]](#)

11:45: [SISAMFriAM02]

Transmission Electron Microscopy for efficient recycling of Nd-Fe-B permanent magnets

Saso Sturm¹ ; Awais Ikram² ; Xuan Xu² ; **Spomenka Kobe**³ ; **Kristina Rozman**² ; Farhan Mehmood² ; ¹Head of Department for Nanostructured Materials, Ljubljana, Slovenia; ²Jozef Stefan Institute, Ljubljana, Slovenia; ³Josef Stefan Institute, Ljubljana, Slovenia;

Paper Id: 281 [\[Abstract\]](#)

12:10: [SISAMFriAM03] Keynote

Sustainable and efficient use of rare earth magnets

Allan Walton¹ ; ¹University of Birmingham, Birmingham, United Kingdom;

Paper Id: 410 [\[Abstract\]](#)

12:35: [SISAMFriAM04]

Current Trends In Recycling, Usage and Market of Rare-Earths

Marcos De Campos¹ ; Jose Adilson De Castro¹ ; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil;

Paper Id: 198 [\[Abstract\]](#)

13:00 LUNCH

SESSION 6:
SISAMFriPM1-R3
E: Complexity in materials

**Kobe International Symposium on Science of
Innovative and Sustainable Alloys and
Magnets (5th Intl. Symp. on Science of
Intelligent and Sustainable Advanced
Materials (SISAM))**

Fri Oct, 25 2019

Room: **Akamas C (140/Gr. F)**

Session Chairs: Mariana **Calin**; Session Monitor: TBA

14:00: [SISAMFriPM105]

Designing Metallic Glasses and Heterophase Materials for Engineering Applications

Juergen Eckert¹ ; ¹Erich Schmid Institute of Materials Science, Leoben, Austria;
Paper Id: 70 [\[Abstract\]](#)

14:25: [SISAMFriPM106]

Nanocrystal-amorphous dispersions in Al-based and high-entropy alloys

A. Lindsay Greer¹ ; Akihisa Inoue² ; ¹University of Cambridge, Cambridge, United Kingdom; ²Tianjin University, Tianjin, China;
Paper Id: 250 [\[Abstract\]](#)

14:50: [SISAMFriPM107] Invited

Amorphous and metastable gold-based alloys as precursors for nanoporous gold synthesis for Surface Enhanced Raman Spectroscopy applications.

Paola Rizzi¹ ; Federico Scaglione² ; Deepti Raj² ; Livio Battezzati² ; ¹Università di Torino, Dipartimento di Chimica, Torino, Italy; ²Università di Torino, Torino, Italy;
Paper Id: 29 [\[Abstract\]](#)

15:15: [SISAMFriPM108]

Continuous 3D graphene-like networks formation from cellulose nanofibers in ceramic matrices

Andraž Kocjan¹ ; Ana Lazar¹ ; Eduardo Ruiz Hitzky² ; Bernd Wicklein³ ; ¹Jožef Stefan Institute, Ljubljana, Slovenia; ²Instituto de Ciencia de Materiales de Madrid (ICMM), Consejo Superior de Investigaciones Científicas (CSIC), Madrid, Spain; ³Instituto de Ciencia de Materiales de Madrid (ICMM), Consejo Superior de Investigaciones Científicas (CSIC), Madrid, Spain;
Paper Id: 18 [\[Abstract\]](#)

15:40 Break

SESSION 7:
SISAMFriPM2-R3
F: Metastability &
sustainability

Kobe International Symposium on Science of
Innovative and Sustainable Alloys and
Magnets (5th Intl. Symp. on Science of
Intelligent and Sustainable Advanced
Materials (SISAM))

Fri Oct, 25 2019

Room: Akamas C (140/Gr. F)

Session Chairs: Saso Sturm; Session Monitor: TBA

15:55: [SISAMFriPM209] Plenary

The Role of Science and Materials in Saving Our Planet and Ourselves (Part 1)

Richard Wheeler¹; ¹Jozef Stefan Institute (Slovenia), (and) European Sustainable Energy Innovation Alliance (Austria), (and) Balkan Institute for Labour and Social Policy (Bulgaria), Edinburgh, United Kingdom;

Paper Id: 74 [\[Abstract\]](#)

16:20: [SISAMFriPM210]

The Role of Science and Materials in Saving Our Planet and Ourselves (Part 2)

Richard Wheeler¹; ¹Jozef Stefan Institute (Slovenia), (and) European Sustainable Energy Innovation Alliance (Austria), (and) Balkan Institute for Labour and Social Policy (Bulgaria), Edinburgh, United Kingdom;

Paper Id: 472 [\[Abstract\]](#)

16:45: [SISAMFriPM211] Invited

Towards High Coercivities in Heavy Rare Earth Free Nd-Fe-B Ribbons

Marko Soderžnik¹; Matic Korent²; Urska Ročnik³; Boris Saje⁴; **Spomenka Kobe**⁵;

¹Jožef Stefan Institute, Ljubljana, Slovenia, Ljubljana, Slovenia; ²Jozef Stefan Institute, LJUBLJANA, Slovenia; ³Department for Nanostructured Materials, Jožef Stefan Institute, Ljubljana, Slovenia; ⁴Kolektor Magnet Technology GmbH, Essen, Germany; ⁵Josef Stefan Institute, Ljubljana, Slovenia;

Paper Id: 367 [\[Abstract\]](#)

17:10: [SISAMFriPM212] Invited

Between metastability and equilibrium in Fe-Ga functional alloys

Igor S. Golovin¹; Valeria V. Palacheva¹; Abdelkariem Mohamed¹; Anatoly M. Balagurov²; Ivan A. Bobrikov²; ¹National University of Science and Technology 'MISIS', Moscow, Russian Federation; ²Joint Institute of Nuclear Research, Dubna, Russian Federation;

Paper Id: 150 [\[Abstract\]](#)

17:35 Break

SESSION 8:
SISAMFriPM3-R3
I: Crystals

**Kobe International Symposium on Science of
Innovative and Sustainable Alloys and
Magnets (5th Intl. Symp. on Science of
Intelligent and Sustainable Advanced
Materials (SISAM))**

Fri Oct, 25 2019 / Room:

Akamas C (140/Gr. F)

Session Chairs: Michael J. **Zehetbauer**; Session Monitor: TBA

17:40: [SISAMFriPM313] Invited

Lanthanum Silicate for High-Dielectric Gate Insulator

Hiroshi Iwai¹; ¹Tokyo Institute of Technology, Yokohama, Japan;

Paper Id: 80 [\[Abstract\]](#)

18:05: [SISAMFriPM314] Keynote

Recent Results and New Functionalities in Ferroelectric Based Structures

Lucian Pintilie¹; Ioana Pintilie¹; ¹National Institute of Materials Physics, Magurele,
Romania;

Paper Id: 241 [\[Abstract\]](#)

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 5:
MagnesiumFriAM-R4

**Intl Symp. on Next Generation Magnesium
Alloys and Their Applications for Sustainable
Development**

Fri Oct, 25 2019

Room: **Avacas (98/Mezz. F)**

Session Chairs: Eiji **Abe**; Session Monitor: TBA

11:20: [MagnesiumFriAM01] Keynote

Thermodynamics and Kinetics in Magnesium Alloy Design(Part 1)

Michele Manuel¹ ; ¹University of Florida, Florida, United States;

Paper Id: 435 [\[Abstract\]](#)

11:45: [MagnesiumFriAM02] Keynote

Thermodynamics and Kinetics in Magnesium Alloy Design(Part 2)

Michele Manuel¹ ; ¹University of Florida, Florida, United States;

Paper Id: 486 [\[Abstract\]](#)

12:10: [MagnesiumFriAM03] Invited

Prediction of Fatigue Crack Initiation in Magnesium Alloys

Manabu Enoki¹ ; Fabien Briffod¹ ; Takayuki Shiraiwa¹ ; ¹The University of Tokyo,

Bunkyo-ku, Japan;

Paper Id: 294 [\[Abstract\]](#)

12:35: [MagnesiumFriAM04]

Development of Incombustible Mg-Zn-Y Alloys

Shin-ichi Inoue¹ ; Michiaki Yamasaki² ; Yoshihito .kawamura³ ; ¹Kumamoto University,

Kumamoto, Japan; ²Kumamoto university, Kumamoto, Japan; ³Kumamoto University,

Kumamoto, Japan;

Paper Id: 348 [\[Abstract\]](#)

13:00 LUNCH

SESSION 6:
MagnesiumFriPM1-R4

**Intl Symp. on Next Generation Magnesium
Alloys and Their Applications for Sustainable
Development**

Fri Oct, 25 2019

Room: **Avacas (98/Mezz. F)**

Session Chairs: Takao Tsumuraya; Session Monitor: TBA

14:00: [MagnesiumFriPM105] Invited

Texture Evolution of Ca-Containing Mg-Zn Alloys during Annealing

Nack Kim¹; ¹POSTECH, Pohang, Republic of South Korea;

Paper Id: 297 [\[Abstract\]](#)

14:25: [MagnesiumFriPM106]

Influence of Texture on Energy Absorption Capability in Porous Magnesium with Oriented Pores

Tsuyoshi Mayama¹; Masakazu Tane²; Yuichi Tadano³; ¹Kumamoto University, Kumamoto, Japan; ²Osaka University, Osaka, Japan; ³Saga University, Saga, Japan;

Paper Id: 290 [\[Abstract\]](#)

14:50: [MagnesiumFriPM107]

Dynamics of Kink Formation Behavior under Compressive Stress via Hybrid Measurement of In Situ Neutron Diffraction and Acoustic Emission

Kazuya Aizawa¹; Wu Gong²; **Stefanus Harjo**³; Takuro Kawasaki¹; ¹Japan Atomic Energy Agency, Tokai-mura, Japan; ²Kyoto University, Tokai-mura, Japan; ³Japan Atomic Energy Agency, Naka-gun, Japan;

Paper Id: 237 [\[Abstract\]](#)

15:15: [MagnesiumFriPM108]

Deformation Behavior of Directionally Solidified Mg/LPSO Alloy with Respect to its Lamellar Structure

Daria Drozdenko¹; Kristián Máthis²; Michiaki Yamasaki³; **Stefanus Harjo**⁴; Wu Gong⁵; **Kazuya Aizawa**⁶; Yoshihito .kawamura⁷; ¹Magnesium Research Center, Kumamoto University, Kumamoto, Japan; ²Department of Physics of Materials, Charles University, Prague, Czech Republic; ³Kumamoto university, Kumamoto, Japan; ⁴Japan Atomic Energy Agency, Naka-gun, Japan; ⁵Kyoto University, Tokai-mura, Japan; ⁶Japan Atomic Energy Agency, Tokai-mura, Japan; ⁷Kumamoto University, Kumamoto, Japan;

Paper Id: 308 [\[Abstract\]](#)

15:40 Break

SESSION 7:
MagnesiumFriPM2-R4

**Intl Symp. on Next Generation Magnesium
Alloys and Their Applications for Sustainable
Development**

Fri Oct, 25 2019

Room: **Avacas (98/Mezz. F)**

Session Chairs: Donald **Shih**; Session Monitor: TBA

15:55: [MagnesiumFriPM209] Invited

Activities of Non-basal Slips in Mg-Y and Mg-Li alloy Single and Poly Crystals

Shinji Ando¹; Keisuke Takemoto¹; Hiromoto Kitahara¹; ¹Kumamoto University,
Kumamoto, Japan;

Paper Id: 296 [\[Abstract\]](#)

16:20: [MagnesiumFriPM210]

Acoustic Emission Study of Active Deformation Mechanisms in Mg Alloys

Patrik Dobron¹; Daria Drozdenko²; Klaudia Horvath¹; Juraj Olejnak¹; Jan Bohlen³;
¹Charles University, Prague, Prague, Czech Republic; ²Magnesium Research Center,
Kumamoto University, Kumamoto, Japan; ³Helmholtz-Zentrum Geesthacht,
Geesthacht, Germany;

Paper Id: 319 [\[Abstract\]](#)

16:45: [MagnesiumFriPM211]

Local Deformation Behavior of Mg Alloy Single Crystals using Ball Indenter

Hiromoto Kitahara¹; Momoka Watanabe¹; Shinji Ando¹; ¹Kumamoto University,
Kumamoto, Japan;

Paper Id: 295 [\[Abstract\]](#)

17:10 Round Table

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

SESSION 1:
Ferro-alloysFriAM-R5

**Flink International Symposium on Sustainable
Production of Ferro-alloys (6th Intl. Symp. on
Sustainable Production of Ferro-alloys)**

Fri Oct, 25 2019

Room: **Zeus (55/Mezz. F)**

Session Chairs: Alp **Malazgirt**; Johan **Svensson**; Session Monitor: TBA

11:20: [Ferro-alloysFriAM01] Plenary

A century of alloy production

Bo Flink¹ ; ¹Vargon Alloys AB, Vargön, Sweden;

Paper Id: 476 [\[Abstract\]](#)

11:45: [Ferro-alloysFriAM02]

**The First Application of Underground Fully Mechanized Mining Method on
Turkey Chrome Mining Industry**

Hasan Giray¹ ; ¹Eti Krom, Merkez, Turkey;

Paper Id: 398 [\[Abstract\]](#)

12:10: [Ferro-alloysFriAM03] Plenary

**Control and Optimization of FeSiMn Alloy Production through FLOGEN CONTOP
System**

Thamara Rodrigues Silva¹ ; Igor Tiago Santos¹ ; Josenilson Braga Maia¹ ; Rodrigo
Junqueira Dos Santos Santos¹ ; Marcos De Souza² ; **Florian Kongoli**³ ; ¹Maringa, Sao
Paulo, Brazil; ²FLOGEN Technologies Inc, Sao Paulo, Brazil; ³FLOGEN Technologies
Inc., Mont-Royal, Canada;

Paper Id: 487 [\[Abstract\]](#)

12:35: [Ferro-alloysFriAM04] Keynote

Falconbridge Dominicana (Falcondo) a Sustainable Producer of FeNi

Panagiotis Kouzoupis¹ ; Ioannis Moutafis² ; ¹Falconbridge, BONA, Dominican
Republic; ²Falconbridge Dominicana S.A., BONA, Dominican Republic;

Paper Id: 482 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
Ferro-alloysFriPM1-R5

**Flink International Symposium on Sustainable
Production of Ferro-alloys (6th Intl. Symp. on
Sustainable Production of Ferro-alloys)**

Fri Oct, 25 2019

Room: **Zeus (55/Mezz. F)**

Session Chairs: Florian **Kongoli**; Gregor **Borg**; Session Monitor: TBA

14:00: [Ferro-alloysFriPM105]

**Development Of Technology Of Manganese Alloys Production From Poor Dust
And Carbonate Ores In Unit SER**

Valentin Tsybal¹ ; Inna Rybenko¹ ; Eugene Protopopov¹ ; Pavel Sechenov¹ ; Florian
Kongoli² ; ¹Siberian State Industrial University, Novokuznetsk, Russian Federation;
²FLOGEN Technologies Inc., Mont-Royal, Canada;

Paper Id: 394 [\[Abstract\]](#)

14:25: [Ferro-alloysFriPM106]

Bear Metallurgical - a Sustainable Company in Ferro-alloys Production

David Carey¹ ; ¹Bear Metallurgical Company, Butler, United States;

Paper Id: 399 [\[Abstract\]](#)

14:50: [Ferro-alloysFriPM107]

ORIEN Technology - An Innovative Solution in Ferro-Alloy Production

Genrikh Dorofeev¹ ; Nikolai Ashpin² ; Florian Kongoli³ ; ¹Ferro-Technology, Moscow,
Tula, Russian Federation; ²Ferro-Technology, Tula, Russian Federation; ³FLOGEN
Technologies Inc., Mont-Royal, Canada;

Paper Id: 485 [\[Abstract\]](#)

15:15: [Ferro-alloysFriPM108] Keynote

**A Game-Changing Technology in Mineral Processing by High-Velocity Impact
Comminution with the VeRo Liberator®**

Gregor Borg¹ ; **Oscar Scharfe**² ; ¹VeRo Liberator, Hamburg, Halle, Germany; ²VeRo
Liberator, Hamburg, Hamburg, Germany;

Paper Id: 387 [\[Abstract\]](#)

15:40 Break

SESSION 3:
Ferro-alloysFriPM2-R5

**Flink International Symposium on Sustainable
Production of Ferro-alloys (6th Intl. Symp. on
Sustainable Production of Ferro-alloys)**

Fri Oct, 25 2019

Room: **Zeus (55/Mezz. F)**

Session Chairs: Oscar **Scharfe**; Danica **Fazekašová**; Session Monitor: TBA

15:55: [Ferro-alloysFriPM209]

FerroMolybdenum Production at Bear Metallurgical Company

Michael Hart¹ ; ¹Bear Metallurgical Company, Butler, United States;

Paper Id: 407 [\[Abstract\]](#)

16:20: [Ferro-alloysFriPM210]

FerroVanadium Production at Bear Metallurgical Company

Michael Hart¹ ; ¹Bear Metallurgical Company, Butler, United States;

Paper Id: 403 [\[Abstract\]](#)

16:45: [Ferro-alloysFriPM211]

**Behavior of the Major, Trace and Rare Earth Elements Into Lateritic Weathering
on Gentio do Ouro Golden District, State of Bahia, Brazil**

Francisco Souza¹ ; Nathane Souza² ; ¹IFPB, Campina Grande, Brazil; ²UFRN, Natal,
Brazil;

Paper Id: 412 [\[Abstract\]](#)

17:10 Round Table

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 5:
LawsFriAM-R6

**McNeil International Symposium on Laws and
their Applications for Sustainable Development**

Fri Oct, 25 2019

Room: **Hermes (64/Mezz. F)**

Session Chairs: Yoshihisa **Hayakawa**; Andreas **Erotocritou**; Session Monitor: TBA

11:20: [LawsFriAM01]

**"The AI Seat on the Governing Board – How Influential Should it be in the
Decision-Making Process ?"**

Malcolm Mcneil¹ ; ¹Arent Fox, Los Angeles, United States;

Paper Id: 442 [\[Abstract\]](#)

11:45 Round Table

12:10: [LawsFriAM03]

**UK International Cooperation with Foreign Enforcement Agencies in Financial
Crime**

Maria Cronin¹ ; ¹Peters & Peters, London, United Kingdom;

Paper Id: 354 [\[Abstract\]](#)

12:35 Round Table

13:00 Lunch

SESSION 6:
LawsFriPM1-R6

**McNeil International Symposium on Laws and
their Applications for Sustainable
Development**

Fri Oct, 25 2019

Room: **Hermes (64/Mezz. F)**

Session Chairs: Dennis **Lee**; Andreas **Erotocritou**; Session Monitor: TBA

14:00: [LawsFriPM105]

**The Dos and Don'ts & Potential U.S. Tax Issues For International Corporations
On Setting Up Their Inbound Investment/Businesses in the U.S.**

Dennis Lee¹ ; ¹Dennis M. Lee and Associates, Irvine, United States;

Paper Id: 408 [\[Abstract\]](#)

14:25 Round Table

14:50: [LawsFriPM107]

Conducting International Business – a Litigation Perspective

Andreas Erotocritou¹ ; ¹, Limassol, Cyprus;

Paper Id: 473 [\[Abstract\]](#)

15:15 Round Table

15:40 Break

SESSION 7:
LawsFriPM2-R6

McNeil International Symposium on Laws and
their Applications for Sustainable
Development

Fri Oct, 25 2019

Room: **Hermes (64/Mezz. F)**

Session Chairs: Florian **Kongoli**; Yoshihisa **Hayakawa**; Session Monitor: TBA

15:55: [LawsFriPM209]

AI & the future of the legal profession in the context of advising businesses internationally

Angela Diaz Bastien¹; ¹ERNESTO DIAZ-BASTIEN & ASOCIADOS, SLP, Madrid, Spain;

Paper Id: 467 [\[Abstract\]](#)

16:20: [LawsFriPM210]

Lawyers are being Challenged Now

Yoshihisa Hayakawa¹; ¹Rikkyo University, Tokyo, Japan;

Paper Id: 383 [\[Abstract\]](#)

16:45: [LawsFriPM211]

Role of Science and Technology on Legal and Political Framework

Florian Kongoli¹; ¹FLOGEN Star OUTREACH, Montreal, Canada;

Paper Id: 368 [\[Abstract\]](#)

17:10: [LawsFriPM212]

The Unitary Patent and the Unified Patent Court

Márcia Martinho Da Rosa¹; ¹ANJAP`S Comission for Intellectual Property and New Technologies, LISBON, Portugal;

Paper Id: 330 [\[Abstract\]](#)

17:35 Break

SESSION 8:
LawsFriPM3-R6

McNeil International Symposium on Laws and
their Applications for Sustainable
Development

Fri Oct, 25 2019 / Room:

Hermes (64/Mezz. F)

Session Chairs: Amalia **Neenan**; Session Monitor: TBA

17:40: [LawsFriPM313]

Employment Issues for Start-Ups: Sustainable solutions

Malcolm Mcneil¹; ¹Arent Fox, Los Angeles, United States;

Paper Id: 477 [\[Abstract\]](#)

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 5:
GeomechanicsFriAM-R7

**Schrefler International Symposium on
Geomechanics and Applications for
Sustainable Development**

Fri Oct, 25 2019

Room: **Athena (105/Mezz. F)**

Session Chairs: Nasser **Khalili**; Bernd **Markert**; Session Monitor: TBA

11:20: [GeomechanicsFriAM01] Plenary

Working at the Geo/Bio Interface: Elastoplasticity of the Hierarchical Material System Bone

Christian Hellmich¹ ; Valentina Wittner¹ ; Viktoria Vass¹ ; Claire Morin² ; ¹Vienna University of Technology, Vienna, Austria; ²Ecole des Mines de Saint-Etienne, Saint-Etienne, France;

Paper Id: 317 [\[Abstract\]](#)

11:45: [GeomechanicsFriAM02] Invited

Numerical Modelling of the effect of blasting and rock cutting in resources mining

Hongyuan Liu¹ ; **Andrew Chan**¹ ; ¹University of Tasmania, Hobart, Australia;

Paper Id: 386 [\[Abstract\]](#)

12:10: [GeomechanicsFriAM03] Keynote

Second Gradient Poromechanics: Constitutive Modeling and Numerical Implementation in IGA-FEM

Carlos Plua¹ ; Pierre Besuelle¹ ; **Claudio Tamagnini**² ; ¹Laboratoire 3SR Universite Grenoble Alpes, INP, CNRS, Grenoble, France; ²University of Perugia, Perugia, Italy;

Paper Id: 409 [\[Abstract\]](#)

12:35: [GeomechanicsFriAM04] Invited

Predictive Geosciences for Georesources Exploration and Management, Underground Exploitation, and Environmental Issues

Mohamed Azaroual¹ ; ¹ISTO (Earth Science Institute of Orleans), Orléans, France;

Paper Id: 272 [\[Abstract\]](#)

13:00 LUNCH

SESSION 6:
GeomechanicsFriPM1-R7

Schrefler International Symposium on
Geomechanics and Applications for
Sustainable Development

Fri Oct, 25 2019

Room: **Athena (105/Mezz. F)**

Session Chairs: Elias **Aifantis**; Daniela P. **Boso**; Session Monitor: TBA

14:00: [GeomechanicsFriPM105] Plenary

Thermo-hydro-mechanical Modeling of Soil Freezing Using a Coupled Phase-field-porous Media Approach

Bernd Marker¹; Abdel Hassan Sweidan²; Baharin Ali²; ¹Institute for General Mechanics, RWTH Aachen University, Aachen, Germany; ²Institute of General Mechanics (IAM), RWTH Aachen University, Aachen, Germany;
Paper Id: 378 [\[Abstract\]](#)

14:25: [GeomechanicsFriPM106] Plenary

Scale-dependent Continuum Descriptions for Materials with Microstructure: Old Ideas and New Formulations

Patrizia Trovalusci¹; ¹Sapienza - University of Rome, Rome, Italy;
Paper Id: 279 [\[Abstract\]](#)

14:50: [GeomechanicsFriPM107] Plenary

How Far can we Stretch the Application of Modelling Techniques of Geomechanics to Biological Tissues and to Medical Issues?

Jacques Marie Huyghe¹; Eanna Fennell²; Philip Poillot²; ¹University of Limerick, Limerick, Ireland; ²Bernal Institute, University of Limerick, Limerick, Ireland;
Paper Id: 363 [\[Abstract\]](#)

15:15: [GeomechanicsFriPM108] Invited

Constitutive laws for concrete at different scales

Carmelo Maiorana¹; Gianluca Mazzucco²; Xotta Giovanna²; Beatrice Pomaro²; Nico De Marchi²; Valentina Salomoni³; ¹, Padova, Italy; ²University of Padova, Padova, Italy; ³University of Padova, Vicenza, Italy;
Paper Id: 428 [\[Abstract\]](#)

15:40 Break

SESSION 7:
GeomechanicsFriPM2-R7

Schrefler International Symposium on
Geomechanics and Applications for
Sustainable Development

Fri Oct, 25 2019

Room: **Athena (105/Mezz. F)**

Session Chairs: Patrizia **Trovalusci**; Christian **Hellmich**; Session Monitor: TBA

15:55: [GeomechanicsFriPM209] Plenary

Bridging the Gap between the Microstructure of Concrete and Traffic Infrastructure

Hui Wang¹; Eva Binder²; Jiao-long Zhang¹; Thomas Schlappal²; Yong Yuan¹; Bernhard Pichler²; **Herbert Mang**³; ¹Tongji University, Shanghai, China; ²Technische Universität Wien, Wien, Austria; ³Technische Universität Wien, Vienna, Austria;
Paper Id: 242 [\[Abstract\]](#)

16:20: [GeomechanicsFriPM210] Keynote

A Non-equilibrium Approach to Modeling Chemical Deterioration Processes in Concrete Structures Exposed to Variable Hygrothermal Conditions

Dariusz Gawin¹; **Francesco Pesavento**²; Marcin Koniarczyk¹; ¹Lodz University of Technology, Lodz, Poland; ²University of Padova, Padova, Italy;
Paper Id: 223 [\[Abstract\]](#)

16:45: [GeomechanicsFriPM211] Keynote

A General Framework for the Numerical Modeling of Concrete Structures Behavior

Francesco Pesavento¹; **Dariusz Gawin**²; Giuseppe Sciumè³; Marcin Koniarczyk²; ¹University of Padova, Padova, Italy; ²Lodz University of Technology, Lodz, Poland; ³Université de Bordeaux, Bordeaux, France;
Paper Id: 222 [\[Abstract\]](#)

17:10: [GeomechanicsFriPM212] Invited

Green Concretes: An Efficient Route to Promote Sustainability in the Construction Industry

Carlo Pellegrino¹; ¹University of Padova, Italy, Padova, Italy;
Paper Id: 316 [\[Abstract\]](#)

17:35 Break

SESSION 8:
GeomechanicsFriPM3-R7

Schrefler International Symposium on
Geomechanics and Applications for
Sustainable Development

Fri Oct, 25 2019

Room: **Athena (105/Mezz. F)**

Session Chairs: David **Smeulders**; Claudio **Tamagnini**; Session Monitor: TBA

17:40: [GeomechanicsFriPM313] Invited

Macro-simulation of fluid flow and the interaction with the excavation process of the Brenner Base Tunnel

Konrad Bergmeister¹ ; Tassilo Weifner² ; ¹, Vienna, Austria; ²BBT SE, Innsbruck, Austria;

Paper Id: 465 [\[Abstract\]](#)

18:05: [GeomechanicsFriPM314] Keynote

Learning from complexity - geomechanical back analysis of complex rock failures of the Brenner Base Tunnel

Konrad Bergmeister¹ ; ¹, Vienna, Austria;

Paper Id: 464 [\[Abstract\]](#)

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 5:
IronFriAM-R8

Usui International Symposium on Advanced Sustainable Iron and Steel Making (7th Intl. Symp. on Advanced Sustainable Iron and Steel Making)

Fri Oct, 25 2019

Room: **Ambrosia B (77/RF)**

Session Chairs: Masaaki **Naito**; Oleg **Ostrovski**; Session Monitor: TBA

11:20: [IronFriAM01]

Gaseous Reduction of Iron Ore Agglomerates --- Reaction Behavior and Reaction Models

Tateo Usui¹ ; Masaaki Naito² ; Hirotoshi Kawabata³ ; Hideki Ono⁴ ; [Hirokazu Konishi](#)³ ; Paulo Assis⁵ ; ¹Osaka University, Ibaraki, Japan; ²Nippon Steel Technology Corporation, Futtsu, Japan; ³Osaka University, Suita, Japan; ⁴University of Toyama, Toyama, Japan; ⁵UFOP, Ouro Preto, Brazil;

Paper Id: 437 [\[Abstract\]](#)

11:45: [IronFriAM02]

Application of Multi-stage Zone Reaction Model for Agglomerates to Blast Furnace Analysis

Masaaki Naito¹ ; ¹Nippon Steel Technology Co., Ltd., Futtsu, Japan;

Paper Id: 429 [\[Abstract\]](#)

12:10: [IronFriAM03]

Influence of Basicity on Reduction Rate of Iron Oxide

Hirokazu Konishi¹ ; Tateo Usui² ; Hideki Ono³ ; ¹Osaka University, Suita, Japan; ²Osaka University, Ibaraki, Japan; ³University of Toyama, Toyama, Japan;

Paper Id: 273 [\[Abstract\]](#)

12:35: [IronFriAM04]

Knowns and Unknowns in the Solid State Reduction of Metal Oxides

Oleg Ostrovski¹ ; ¹The University of New South Wales Sydney, Sydney, Australia;

Paper Id: 358 [\[Abstract\]](#)

13:00 LUNCH

SESSION 6:
IronFriPM1-R8

Usui International Symposium on Advanced
Sustainable Iron and Steel Making (7th Intl.
Symp. on Advanced Sustainable Iron and
Steel Making)

Fri Oct, 25 2019

Room: **Ambrosia B (77/RF)**

Session Chairs: Henrik **Saxen**; Hiroshi **Nogami**; Session Monitor: TBA

14:00: [IronFriPM105] Keynote

Modeling and Analysis of Reactions in Blast Furnace

Hiroshi Nogami¹ ; Shungo Natsui¹ ; ¹Tohoku University, Sendai, Japan;

Paper Id: 390 [\[Abstract\]](#)

14:25: [IronFriPM106]

Mathematical model of burden distribution in the blast furnace

Henrik Saxen¹ ; Mikko Helle² ; Haifeng Li³ ; ¹Abo Akademi University, 20500 Abo, Finland; ²Abo Akademi University, Abo, Finland; ³Northeastern University, Shenyang, China;

Paper Id: 271 [\[Abstract\]](#)

14:50: [IronFriPM107] Keynote

FLOGEN Contop Design, Decision-Making, Control, Optimization and Automation System Applied at Blast Furnaces

Paulo Afonso Gomes¹ ; Marcos De Souza² ; **Florian Kongoli**³ ; ¹FLOGEN Technologies Inc., Belo Horizonte, Brazil; ²FLOGEN Technologies Inc, Sao Paulo, Brazil; ³FLOGEN Technologies Inc., Mont-Royal, Canada;

Paper Id: 479 [\[Abstract\]](#)

15:15: [IronFriPM108]

Mathematical Modeling of the Shaft Furnace Process for Producing DRI Using Self-Reducing Pellets

Jose Adilson De Castro¹ ; Marcos De Campos¹ ; Elizabeth Oliveira² ; Giulio Antunes De Medeiros³ ; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil; ²Center for Technological Education Celso Suckow da Fonseca, Valenca, Brazil; ³UFF- Programa de Pos Graduação em Engenharia Metalurgica, Volta Redonda, Brazil;

Paper Id: 200 [\[Abstract\]](#)

15:40 Break

SESSION 7:
IronFriPM2-R8

Usui International Symposium on Advanced
Sustainable Iron and Steel Making (7th Intl.
Symp. on Advanced Sustainable Iron and
Steel Making)

Fri Oct, 25 2019

Room: **Ambrosia B (77/RF)**

Session Chairs: Taichi **Murakami**; Cyro **Takano**; Session Monitor: TBA

15:55: [IronFriPM209]

Evaluation of Ferro-coke Reaction Behavior in Blast Furnace

Yuki Iwai¹ ; Hideki Fujimoto² ; Takashi Anyashiki² ; Takeshi Sato³ ; Michitaka Sato² ;
¹JFE Steel Corporation, Fukuyama, Japan; ²JFE Steel, Fukuyama, Japan; ³JFE Steel
Corporation, Chiba, Japan;

Paper Id: 419 [\[Abstract\]](#)

16:20: [IronFriPM210] Keynote

**Binders for Cold Agglomerations with Perspective for Strengthening at High
Processing Temperatures**

Cyro Takano¹ ; Tiago Ribeiro² ; Marcelo Mourao¹ ; ¹University of Sao Paulo, Sao
Paulo, Brazil; ²Institute for Technological Research, Sao Paulo, Brazil;

Paper Id: 372 [\[Abstract\]](#)

16:45: [IronFriPM211]

Method for measuring charcoal bulk compression strength

Solon Tagusagawa¹ ; Martim H.n. Kurauchi² ; **Cyro Takano**³ ; Tiago Ribeiro⁴ ; Marcelo
Mourao³ ; Cesar Yuji Narita⁵ ; ¹USP - Universidade De Sao Paulo, Sao Paulo, Brazil;
²University of Sao Paulo Polytechnic School, Sao Paulo, Brazil; ³University of Sao
Paulo, Sao Paulo, Brazil; ⁴Institute for Technological Research, Sao Paulo, Brazil;
⁵Polytechnic School of the University of Sao Paulo, Sao Paulo, Brazil;

Paper Id: 385 [\[Abstract\]](#)

17:10: [IronFriPM212]

**Effect of Iron Ore-Carbon Composite Structure on Phosphorus Content in
Reduced Molten Iron and Slag**

Taichi Murakami¹ ; Daisuke Maruoka² ; Eiki Kasai¹ ; ¹Graduate School of
Environmental Studies, Tohoku University, Sendai, Japan; ²Tohoku University, Sendai,
Japan;

Paper Id: 76 [\[Abstract\]](#)

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 5:
ChemistryFriAM-R9

**Tressaud International Symposium on Solid
State Chemistry for Applications and
Sustainable Development**

Fri Oct, 25 2019

Room: **Aphrodite A (100/Gr. F)**

Session Chairs: **E. Kemnitz**; **Igor Flerov**; Session Monitor: TBA

11:20: [ChemistryFriAM01] Plenary

Fluoride Materials for Advanced Technologies, Energy, and Sustainability Issues

Alain Tressaud¹; ¹ICMCB-CNRS, University Bordeaux, Pessac, France;

Paper Id: 174 [\[Abstract\]](#)

11:45: [ChemistryFriAM02] Keynote

The Role of Advanced Fluorine Materials in our Daily Life.

Dayal Meshri¹; Navin C. Mathur¹; Sanjay Meshri¹; Robert Adams¹; Devender

Pinnapareddy¹; Sudhir Bhagat¹; Harpreet Bhinhar¹; ¹Advance Research Chemicals,
CATOOSA, United States;

Paper Id: 163 [\[Abstract\]](#)

12:10: [ChemistryFriAM03] Invited

New Iron-Based Fluorides as Positive Electrode for Lithium Secondary Batteries

Vincent Maisonneuve¹; ¹Institut des Molecules et Materiaux du Mans (IMM, UMR
CNRS 6283), LE MANS, France;

Paper Id: 60 [\[Abstract\]](#)

12:35: [ChemistryFriAM04] Invited

**Fluoride and Oxide Fluoride Compounds during Fluoride Processing of
Titanium-Containing Raw Materials**

Natalia Laptash¹; Irina Maslennikova¹; ¹Institute of Chemistry, Far Eastern Branch of
RAS, Vladivostok, Russian Federation;

Paper Id: 53 [\[Abstract\]](#)

13:00 LUNCH

SESSION 6:
ChemistryFriPM1-R9

**Tressaud International Symposium on Solid
State Chemistry for Applications and
Sustainable Development**

Fri Oct, 25 2019

Room: **Aphrodite A (100/Gr. F)**

Session Chairs: Dayal **Meshri**; Vincent **Maisonneuve**; Session Monitor: TBA

14:00: Round Table

14:25: [ChemistryFriPM106] Invited

Complex Fluorides and Oxyfluorides: Successive Ferroelastic Phase Transitions and Barocaloric Effect

Igor Flerov¹ ; Mikhail Gorev¹ ; Evgeniy Bogdanov¹ ; ¹Kirensky Institute of Physics, Krasnoyarsk, Russian Federation;

Paper Id: 27 [\[Abstract\]](#)

14:50: [ChemistryFriPM107] Keynote

Polyanionic Structures and Competitive Bonds around Fluorine : Tuning the Band Gap for New Applications in Solid State Chemistry

Alain Demourques¹ ; ¹ICMCB-CNRS-University of Bordeaux, Pessac, France;

Paper Id: 36 [\[Abstract\]](#)

15:15: [ChemistryFriPM108] Invited

Heteroanionic titanium oxide-fluoride compounds: from anionic ordering to defects

Damien Dambournet¹ ; ¹Sorbonne University, Paris, France;

Paper Id: 91 [\[Abstract\]](#)

15:40 Break

SESSION 7:
ChemistryFriPM2-R9

Tressaud International Symposium on Solid
State Chemistry for Applications and
Sustainable Development

Fri Oct, 25 2019

Room: **Aphrodite A (100/Gr. F)**

Session Chairs: Thierry **Loiseau**; Jean-Luc **Adam**; Session Monitor: TBA

15:55: [ChemistryFriPM209] Keynote

Sodium manganese-rich layered oxides (NaTMO₂): a rational approach to cathode material development

Nicholas Drewett¹ ; Elena Gonzalo¹ ; Juan Miguel Lopez Del Amo¹ ; Nagore Ortiz Vitoriano¹ ; Begona Acebedo¹ ; Laura Acebo¹ ; Galceran Montserrat¹ ; **Teofilo Rojo**¹ ;
¹CIC energiGUNE, Vitoria-Gasteiz, Spain;

Paper Id: 169 [\[Abstract\]](#)

16:20: [ChemistryFriPM210]

Renewable Energy Systems: Current Status and Prospects

Soteris Kalogirou¹ ; ¹Cyprus University of Technology, Limassol, Cyprus;

Paper Id: 177 [\[Abstract\]](#)

16:45: [ChemistryFriPM211] Plenary

From Solid State Chemistry to Solid State Electrochemistry: Lithium Metal Polymer Batteries

Christian Julien¹ ; **Karim Zaghbi**² ; Michel Armand³ ; John Goodenough⁴ ; Alain Mauger¹ ; ¹Institut de Minéralogie, de Physique des Matériaux et de Cosmochimie (IMPMC), Paris, France; ²Hydro-Quebec's Center of excellence in transportation electrification and Energy Storage, Varennes, Canada; ³CIC Energigune, Paris, France; ⁴Texas Materials Institute, Austin, United States;

Paper Id: 405 [\[Abstract\]](#)

17:10: [ChemistryFriPM212] Invited

Electronic structure engineering as a new tool in development of Li-ion and Na-ion batteries

Janina Molenda¹ ; ¹AGH University of Science and Technology, Kraków, Kraków, Poland;

Paper Id: 379 [\[Abstract\]](#)

17:35 Break

SESSION 8:
ChemistryFriPM3-R9

Tressaud International Symposium on Solid
State Chemistry for Applications and
Sustainable Development

Fri Oct, 25 2019

Room: **Aphrodite A (100/Gr. F)**

Session Chairs: Khalil Amine; Session Monitor: TBA

17:40: [ChemistryFriPM313] Keynote

**Advanced Energy Storage systems for enabling electrification of vehicles
Lithium Ion and Beyond**

Khalil Amine¹ ; ¹Argonne National Laboratory, Argonne, United States;

Paper Id: 62 [\[Abstract\]](#)

18:05: [ChemistryFriPM314]

**Revisiting Crystal Structure - Hole Doping - Tc Relations in Overdoped M-1212
Superconducting Cuprates.**

Miguel Angel Alario Franco¹ ; Sara Almudena Lopez Paz¹ ; Xabier Martinez De Irujo²
; ¹Inorganic Chemistry DPT.Facultad de Química Universidad Complutense, MADRID,
Spain; ²Inorganic Chemistry DPT.Facultad de Química Universidad Complutensi,
MADRID, Spain;

Paper Id: 61 [\[Abstract\]](#)

19:30 Dinner

Saturday

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 9:
PhysicalSatAM-R10

**Vayenas International Symposium on Physical
Chemistry and its applications for sustainable
development**

Sat Oct, 26 2019

Room: **Aphrodite B (100/Gr. F)**

Session Chairs: Michael **Stoukides**; Costas **Galiotis**; Session Monitor: TBA

11:20: [PhysicalSatAM01] Plenary

Graphene Synthesis and Applications

Costas Galiotis¹ ; ¹University of Patras School of Engineering Department of Chemical Engineering, Institute of Chemical Engineering Sciences (ICE-HT), Patras, Greece;

Paper Id: 282 [\[Abstract\]](#)

11:45: [PhysicalSatAM02] Keynote

High Temperature Proton and Co-Ionic Electrochemical Membrane Reactors a) Co₂/H₂o Co-Electrolysis and b) Nh₃ Synthesis

Ioannis Garagounis¹ ; Vasileios Kyriakou² ; Anastasios Vourros¹ ; Demetrios Stoukides¹ ; **Michael Stoukides**¹ ; ¹Aristotle University, Thessaloniki, Greece; ²Dutch Institute for Fundamental Energy Research (DIFFER), Eindhoven, Netherlands;

Paper Id: 46 [\[Abstract\]](#)

12:10: [PhysicalSatAM03]

Proton Internal Pressure Distribution Suggests a Simple Proton Structure

Dimitrios Grigoriou¹ ; **Eftychia Martino**² ; **Constantinos Vayenas**¹ ; ¹University of Patras, Patras, Greece; ²University of Patras, Dept. of Chemical Engineering, Patras, Achaia, Greece;

Paper Id: 89 [\[Abstract\]](#)

12:35: [PhysicalSatAM04]

Consequences of Important Parameters on the Effect of Water on Fischer-Tropsch Synthesis Rate and Selectivity

Klito C. Petalidou¹ ; Enrique Iglesia² ; **Angelos Efsthathiou**³ ; ¹University of California at Berkeley, University of Cyprus, Nicosia, Cyprus; ²University of California at Berkeley, Berkeley, United States; ³University of Cyprus, Nicosia, Cyprus;

Paper Id: 195 [\[Abstract\]](#)

13:00 LUNCH

SESSION 10:
PhysicalSatPM1-R10

**Vayenas International Symposium on Physical
Chemistry and its applications for sustainable
development**

Sat Oct, 26 2019

Room: **Aphrodite B (100/Gr. F)**

Session Chairs: Pavlos **Stephanou**; Yue **Liu**; Session Monitor: TBA

14:00: [PhysicalSatPM105] Plenary

Single Metal Atom Catalysts: a New Frontier in Heterogeneous Catalysis

María Flytzani Stephanopoulos¹; ¹Tufts University, Medford, United States;

Paper Id: 280 [\[Abstract\]](#)

14:25: [PhysicalSatPM106]

Multiscale Modeling and Simulation of the Viscoelasticity of Complex,

Microstructured Fluids Guided from Nonequilibrium Thermodynamics

Vlasios Mavrantzas¹; [Pavlos Stephanou](#)²; ¹1. University of Patras, Department of

Chemical Engineering 2. ETH Zurich, Department of Mechanical and Process

Engineering, Zurich, Switzerland; ²Cyprus University of Technology, Limassol, Cyprus;

Paper Id: 84 [\[Abstract\]](#)

14:50: [PhysicalSatPM107] Plenary

Sorption and Catalytic Chemistry in Crowded Environments

Johannes A. Lercher¹; [Yue Liu](#)²; ¹Technical University of Munich, Garching,

Germany; ²Technical University of Munich, Unterhaching, Germany;

Paper Id: 128 [\[Abstract\]](#)

15:15: [PhysicalSatPM108]

The Mechanics of the Space-Time Fabric of Space

Mark F. Horstemeyer¹; ¹Liberty University, Virginia, United States;

Paper Id: 445 [\[Abstract\]](#)

15:40 Break

SESSION 11:
PhysicalSatPM2-R10

**Vayenas International Symposium on Physical
Chemistry and its applications for sustainable
development**

Sat Oct, 26 2019

Room: **Aphrodite B (100/Gr. F)**

Session Chairs: Renat **Sultanov**; Libor **Kvitek**; Session Monitor: TBA

15:55: [PhysicalSatPM209] Plenary

Ultra-Relativistic Post-Minkowskian General Relativity, the Strong Force, and the Vayenas Model

Athanassios Fokas¹ ; ¹University of Cambridge, Cambridge, United Kingdom;

Paper Id: 133 [\[Abstract\]](#)

16:20: [PhysicalSatPM210] Plenary

Reaction Mechanisms in Electrocatalysis: Insights from Electrochemical Methods, Kinetic Modeling and Operando Spectroscopies

Elena Savinova¹ ; ¹University of Strasbourg, Strasbourg, France;

Paper Id: 11 [\[Abstract\]](#)

16:45: [PhysicalSatPM211] Invited

Interplay between Coulomb and Nuclear Forces in Low-Energy Atomic, Muonic and Anti-protonic Few-Body Systems

Renat Sultanov¹ ; ¹Department of Mathematics and Engineering, Odessa College, Odessa, Texas, Odessa, United States;

Paper Id: 20 [\[Abstract\]](#)

17:10: [PhysicalSatPM212]

Hydrogenation of Carbon Dioxide on the Iron Based Nanocatalyst

Libor Kvitek¹ ; Martina Kubikova¹ ; Robert Prucek² ; Ales Panacek² ; Manoj B.

Gawande¹ ; ¹Palacky University in Olomouc, Olomouc, Czech Republic; ²Palacky University, Olomouc, Czech Republic;

Paper Id: 274 [\[Abstract\]](#)

17:35 Break

SESSION 12:
PhysicalSatPM3-R10

Vayenas International Symposium on Physical
Chemistry and its applications for sustainable
development

Sat Oct, 26 2019 / Room:
Aphrodite B (100/Gr. F)

Session Chairs: Dionysios **Tsousis**; Session Monitor: TBA

17:40: [PhysicalSatPM313]

Characterization of WO_x -ZrO₂/MWCNT: An Aqueous Phase Acid Catalyst for Alcohol Dehydration

Patrick Kelleher¹ ; Cyril Thomas² ; Hui Shi³ ; **Gary Haller**¹ ; ¹Yale University, New Haven, United States; ²Sorbonne Université, Paris, France; ³Department of Chemistry, Catalysis Research Center, Technische Universität München, Garching, Germany;
Paper Id: 32 [\[Abstract\]](#)

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 5:
BatterySatAM-R11

**6th Intl. Symp. on Sustainable Secondary
Battery Manufacturing and Recycling**

Sat Oct, 26 2019

Room: **Ariadne (80/Mezz. F)**

Session Chairs: Vasant **Kumar**; Ali Reza **Kamali**; Session Monitor: TBA

11:20: [BatterySatAM01]

Surface and Interface phenomena for Electrochemical Energy Storage

Hervé Martinez¹ ; ¹Université de Pau et des Pays de l'Adour - IPREM CNRS UMR 5254, Pau, France;

Paper Id: 158 [\[Abstract\]](#)

11:45: [BatterySatAM02] Invited

The Anode Electrodes for Potassium-Ion Batteries

Zelang Jian¹ ; ¹Wuhan University of Technology, Wuhan, China;

Paper Id: 441 [\[Abstract\]](#)

12:10: [BatterySatAM03]

Si-Polymer Nanocomposite Anodes for Li-Ion Batteries

Pu Hu¹ ; Utkarsh Ahuja² ; Bo Wang³ ; **Katerina Aifantis**⁴ ; ¹Univ of Florida, Gainesville, Greece; ²Uni. of Florida, Gainesville, United States; ³Univ. of Florid, Gainesville, United States; ⁴University of Florida, Gainesville, United States;

Paper Id: 325 [\[Abstract\]](#)

12:35: [BatterySatAM04] Plenary

Non-carbon Matrix Sulfur Cathodes for High Volumetric Specific Energy Lithium-sulfur Batteries

Guoran Li¹ ; Xueping Gao¹ ; ¹Nankai University, Tianjin, China;

Paper Id: 440 [\[Abstract\]](#)

13:00 LUNCH

SESSION 1:
NanomaterialsSatPM1-R11

**6th Intl. Symp. on Synthesis and Properties of
Nanomaterials for Future Energy Demands**

Sat Oct, 26 2019

Room: **Ariadne (80/Mezz. F)**

Session Chairs: Marcos **de Campos**; Yoshio **Kobayashi**; Session Monitor: TBA

14:00: [NanomaterialsSatPM105]

The Steinmetz law: Theoretical considerations

Marcos De Campos¹; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil;

Paper Id: 432 [[Abstract](#)]

14:25: [NanomaterialsSatPM106]

Fabrication of Multi-Layered Gold-Silica-Gadolinium Compound Core-Shell Particles and their Applications to X-ray Imaging and Magnetic Resonance Imaging

Yuta Shindo¹; Tomoya Inose²; Noriko Yamauchi¹; Kouichi Nakashima¹; Masayuki Tokunaga²; Chihiro Kato²; Kohsuke Gonda²; **Yoshio Kobayashi**¹; ¹Ibaraki University, Hitachi, Japan; ²Tohoku University, Sendai, Japan;

Paper Id: 6 [[Abstract](#)]

14:50: [NanomaterialsSatPM107]

Magnetostatic coupling in nanocrystalline magnetic materials

Marcos De Campos¹; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil;

Paper Id: 433 [[Abstract](#)]

15:15: [NanomaterialsSatPM108]

Obtaining Carbon Structures Containing Reinforced Ceramic Materials Based on Alumina

Tinatín Kuchukhidze¹; ¹LEPL Ilia Vekua Sukhumi Institute of Physics and Technology, Tbilisi, Georgia;

Paper Id: 392 [[Abstract](#)]

15:40 Break

SESSION 2:
NanomaterialsSatPM2-R11

6th Intl. Symp. on Synthesis and Properties of
Nanomaterials for Future Energy Demands

Sat Oct, 26 2019

Room: **Ariadne (80/Mezz. F)**

Session Chairs: Lucian **Pintilie**; Tetiana **Prikhna**; Session Monitor: TBA

15:55: [NanomaterialsSatPM209]

Iron Oxide Nanopowder Synthesized by Electroerosion Dispersion

Tetiana Prikhna¹; Mykola Monastyrov²; Bernd Halbedel³; Semyon Ponomarov⁴; **Fernand Marquis**⁵; Athanasios Mamalis⁶; ¹Institute for Superhard Materials, Kiev, Ukraine; ²Open International University of Human Development Ukraine, Kiev, Ukraine; ³Technische Universität Ilmenau, Ilmenau, Germany; ⁴Institute of Semiconductor Physics, Kiev, Ukraine; ⁵San Diego State University, San Diego, United States; ⁶National Technical University of Athens, Athens, Greece;

Paper Id: 121 [\[Abstract\]](#)

16:20: [NanomaterialsSatPM210]

How to Handle the Exchange Energy Term in Micromagnetic Models

Marcos De Campos¹; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil;

Paper Id: 204 [\[Abstract\]](#)

16:45: [NanomaterialsSatPM211]

Magnetic Materials employed in Electric Vehicles

Marcos De Campos¹; Jose Adilson De Castro¹; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil;

Paper Id: 207 [\[Abstract\]](#)

17:10: [NanomaterialsSatPM212]

Recent Trends in the Battery Market and Applications

Marcos De Campos¹; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil;

Paper Id: 209 [\[Abstract\]](#)

17:35 Break

SESSION 3:
NanomaterialsSatPM3-R11

**6th Intl. Symp. on Synthesis and Properties of
Nanomaterials for Future Energy Demands**

Sat Oct, 26 2019

Room: **Ariadne (80/Mezz. F)**

Session Chairs: Chun Li; Session Monitor: TBA

17:40: [NanomaterialsSatPM313]

The Applicability of Combustion Synthesis Process to the Fabrication of MoSi₂-SiC Composites

Manadana Adeli¹ ; Amir Tayebi Pak² ; ¹School of Metallurgy and Materials Engineering, Iran University of Science and Technology, Tehran, Iran; ²Iran University of Science and Technology, Tehran, Iran;
Paper Id: 278 [\[Abstract\]](#)

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 9:
MoltenSatAM-R1

Angell International Symposium on Molten Salt, Ionic & Glass-forming Liquids: Processing and Sustainability (7th Intl. Symp. on Molten Salt, Ionic & Glass-forming Liquids: Processing and Sustainability).

Sat Oct, 26 2019

Room: **Ambrosia A (77/RF)**

Session Chairs: Anders **Riisager**; Adam **Clancy**; Session Monitor: TBA

11:20: [MoltenSatAM01] Keynote

Capture and Transformation of Carbon Dioxide Confined in Ionic Liquids

Jairton Dupont¹ ; ¹UFRGS, Porto Alegre, Brazil;

Paper Id: 13 [\[Abstract\]](#)

11:45: [MoltenSatAM02]

Computer Simulation of the Anion Effect in Gas Absorption of Ionic Liquids

Hubert Stassen¹ ; ¹Instituto de Química - Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil;

Paper Id: 257 [\[Abstract\]](#)

12:10: [MoltenSatAM03]

Selective recovery of Neodymium from NdFeB magnets in molten salts

Patrick J. Masset¹ ; Mickael Mery² ; ¹Technallium Engineering & Consulting, Steinberg am See, Germany; ²Fraunhofer UMSICHT, Sulzbach-Rosenberg, Germany;

Paper Id: 268 [\[Abstract\]](#)

12:35: [MoltenSatAM04] Keynote

Like likes like in ionic liquids: When cooperative hydrogen bonding overcomes Coulomb repulsion between ions of like charge

Ralf Ludwig¹ ; ¹University of Rostock, Rostock, Germany;

Paper Id: 85 [\[Abstract\]](#)

13:00 LUNCH

SESSION 10:
MoltenSatPM1-R1

**Angell International Symposium on Molten
Salt, Ionic & Glass-forming Liquids:
Processing and Sustainability (7th Intl. Symp.
on Molten Salt, Ionic & Glass-forming Liquids:
Processing and Sustainability).**

Sat Oct, 26 2019

Room: **Ambrosia A (77/RF)**

Session Chairs: Vasily **Lutsyk**; Pierre **Lucas**; Session Monitor: TBA

14:00: [MoltenSatPM105] Invited

Tuning the kinetics in phase-change materials

Shuai Wei¹ ; ¹RWTH Aachen University, Aachen, Germany;

Paper Id: 118 [\[Abstract\]](#)

14:25: [MoltenSatPM106]

Proton shuttling in protic ionic liquid fuel cells

Darren Walsh¹ ; Daniel Smith¹ ; ¹University of Nottingham, Nottingham, United Kingdom;

Paper Id: 254 [\[Abstract\]](#)

14:50: [MoltenSatPM107] Invited

Structure and dynamics of tetrahedral ionic glass-forming liquids

Pierre Lucas¹ ; ¹University of Arizona, Tucson, United States;

Paper Id: 75 [\[Abstract\]](#)

15:15: [MoltenSatPM108]

The Similarity Method, Critical Analysis of Specific Heat and the Hybrid Model to Describe Solid AIIIBV, AIIIVI and Fourth Group Compounds from 0 to 1500 K

Valery Vassiliev¹ ; Marcelle Gaune Escard² ; ¹Lomonossov Moscow State University, Moscow, Russian Federation; ²Ecole Polytechnique IUST, Marseille, France;

Paper Id: 466 [\[Abstract\]](#)

15:40 Break

SESSION 5:
RecyclingSatPM2-R1

**Kozlov International Symposium on
Sustainable Materials Recycling Processes
and Products (7th Intl. Symp. on Sustainable
Materials Recycling Processes and Products)**

Sat Oct, 26 2019

Room: **Ambrosia A (77/RF)**

Session Chairs: Shrenivas **Ashrit**; Elsayed **Mousa**; Session Monitor: TBA

15:55: [RecyclingSatPM209]

Development and implementation of the oxidized copper ores' heap leaching processes in the Republic of Kazakhstan

Larissa Kushakova¹ ; Yevgeniy Startsev¹ ; Natalya Sizikova¹ ; ¹VNIItsvetmet, Ust-Kamenogorsk, Kazakhstan;

Paper Id: 44 [\[Abstract\]](#)

16:20: [RecyclingSatPM210]

Using zinc cake flotation in columnar type equipment for increasing of Waelz Process Efficiency

A. Panshin¹ ; Pavel Kozlov² ; Mark Viduetskiy³ ; ¹LLC "UMMC-Holding", Verkhnyaya Pyshma, Russian Federation; ²UMMC-Holding, Moscow, Russian Federation; ³Institute of Material Science and Metallurgy, Ural Federal University, Yekaterinburg, Russian Federation;

Paper Id: 144 [\[Abstract\]](#)

16:45: [RecyclingSatPM211]

Potential of briquetting in sustainable recycling of residues in steel industry

Elsayed Mousa¹ ; ¹Swerim AB, Luleå, Sweden;

Paper Id: 147 [\[Abstract\]](#)

17:10: [RecyclingSatPM212]

EFFECT OF NON-STATIONARY ELECTRIC CURRENT ON CHEMICAL REACTIONS AT THE METAL / ELECTROLYTE INTERFACE

Essen Suleimenov¹ ; ¹Kazakh British Technical University, Almaty, Kazakhstan;

Paper Id: 260 [\[Abstract\]](#)

17:35 Break

SESSION 6:
RecyclingSatPM3-R1

**Kozlov International Symposium on
Sustainable Materials Recycling Processes
and Products (7th Intl. Symp. on Sustainable
Materials Recycling Processes and Products)**

Sat Oct, 26 2019 / Room:
Ambrosia A (77/RF)

Session Chairs: Karel **Kolomaznik**; Session Monitor: TBA

17:40: [RecyclingSatPM313] Keynote

Valuable Products from Natural Polymer Waste

Karel Kolomaznik¹ ; Michaela Barinova² ; Jiri Pecha¹ ; Milan Adamek¹ ; ¹Tomas Bata University in Zlín, Faculty of Applied Informatics, Zlín, Czech Republic; ²Tomas Bata University in Zlín, Zlín, Czech Republic;

Paper Id: 413 [\[Abstract\]](#)

18:05: [RecyclingSatPM314]

Gastrointestinal Simulation Reactor System For Bioaccessibility Determination Of Potentially Toxic Elements

Thalia Garcia Rodriguez¹ ; Daniel Quiroz Vivanco² ; Margarita Gutierrez Ruiz¹ ; Maria Fernanda Mehle Jordan³ ; Benjamin Varela Orozco⁴ ; Violeta Andrea Uribe Castillo⁵ ; ¹UNAM, Mexico, Mexico; ²Universidad Nacional Autónoma de México (UNAM), Ciudad de México, Mexico; ³Comisión Reguladora de Energía, Ciudad de Mexico, Mexico; ⁴Instituto de Ciencias Aplicadas y Tecnología, Universidad Nacional Autónoma de Mexico, Ciudad de Mexico, Mexico; ⁵Facultad de Química, Universidad Nacional Autónoma de Mexico, Ciudad de Mexico, Mexico;

Paper Id: 122 [\[Abstract\]](#)

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 7:
AdvancedMaterialsSatAM-R2

5th Intl. Symp. on New and Advanced
Materials and Technologies for Energy,
Environment and Sustainable Development

Sat Oct, 26 2019

Room: **Leda (99/Mezz. F)**

Session Chairs: Monika **Janowicz**; Agnieszka **Ciurzyńska**; Session Monitor: TBA

11:20: [AdvancedMaterialsSatAM01] Invited

Silver Nanoparticles as Potential Antibacterial Agent: how Silver can overcome Antibiotic Resistance and how Bacteria can Resist Silver

Ales Panacek¹ ; Libor Kvitek² ; Milan Kolar¹ ; Renata Vecerova¹ ; ¹Palacky University, Olomouc, Czech Republic; ²Palacky University in Olomouc, Olomouc, Czech Republic;
Paper Id: 270 [\[Abstract\]](#)

11:45: [AdvancedMaterialsSatAM02]

Architecture of Hybrid Materials Produced by Severe Plastic Deformation for Industrial Applications

Anibal De Andrade Mendes Filho¹ ; Rimma Lapovok² ; ¹CECS, Federal University of ABC | UFABC, Brazil, São Paulo, Brazil; ²Deakin University (Australia), Technion (Israel), Carnegie, Melbourne, Australia;
Paper Id: 71 [\[Abstract\]](#)

12:10: [AdvancedMaterialsSatAM03]

Self-Assembly in Intermediate Phase Region (fluctuation driven) from the UV-Visible Data and Coherence Correlation from X-ray Structural Data across GexSe1-x Chalcogenide Glass series

Deepak Sharma¹ ; ¹scriet meerut, meerut, India;
Paper Id: 82 [\[Abstract\]](#)

12:35: [AdvancedMaterialsSatAM04]

Donor-Acceptor Molecular Materials as Emitters and Hosts for Organic Light Emitting Diodes

Ramin Pashzadeh¹ ; Eigirdas Skuodis¹ ; Ausra Tomkeviciene¹ ; Dmytro Volyniuk¹ ; Jurate Simokaitiene¹ ; Egle Jatautiene¹ ; Ramunas Lygaitis¹ ; **Juozas Vidas Grazulevicius**¹ ; ¹Kaunas University of Technology, Kaunas, Lithuania;
Paper Id: 83 [\[Abstract\]](#)

13:00 LUNCH

SESSION 8:
AdvancedMaterialsSatPM1-R2

**5th Intl. Symp. on New and Advanced
Materials and Technologies for Energy,
Environment and Sustainable Development**

Sat Oct, 26 2019

Room: **Leda (99/Mezz. F)**

Session Chairs: Gabor **Patonay**; Adriana **Estokova**; Session Monitor: TBA

14:00: [AdvancedMaterialsSatPM105]

Polypropylene Based Nanocomposite Membrane with a Self-Assembled Coating for Seawater Treatment via Membrane Distillation

Rajasha Kumar¹ ; Mansour Ahmed¹ ; Garudachari Bhadrachari¹ ; Jibu Thomas¹ ;

¹Kuwait Institute for Scientific Research, Kuwait, Kuwait;

Paper Id: 188 [\[Abstract\]](#)

14:25: [AdvancedMaterialsSatPM106] Invited

Strongly Luminescent Silver Complexes with Very Short and Very Long Excited State Lifetimes

Rafal Czerwieniec¹ ; ¹Universität Regensburg, Regensburg, Germany;

Paper Id: 114 [\[Abstract\]](#)

14:50: [AdvancedMaterialsSatPM107]

Quinoxalinophenanthrophenazine Compounds in Organic Optoelectronic Applications

Bilal Kaafarani¹ ; ¹American University of Beirut, Beirut, Lebanon;

Paper Id: 203 [\[Abstract\]](#)

15:15: [AdvancedMaterialsSatPM108]

Polyoxometalate Chemistry in Carbon Nanotubes

Graham Newton¹ ; Jack Jordan¹ ; Andrei Khlobystov¹ ; Darren Walsh¹ ; ¹University of Nottingham, Nottingham, United Kingdom;

Paper Id: 253 [\[Abstract\]](#)

15:40 Break

SESSION 9:
AdvancedMaterialsSatPM2-R2

**5th Intl. Symp. on New and Advanced
Materials and Technologies for Energy,
Environment and Sustainable Development**

Sat Oct, 26 2019

Room: **Leda (99/Mezz. F)**

Session Chairs: Nadezda **Stevulova**; Liudmila **Lisitsyna**; Session Monitor: TBA

15:55: [AdvancedMaterialsSatPM209]

Low-Cost Thermochemical Heat Storage by Using Cement-Based Composite Materials

Matteo Pavese¹; Luca Lavagna¹; Davide Burlon¹; Roberto Nistico¹; Vincenza Brancato²; Andrea Frazzica²; Eliodoro Chiavazzo¹; ¹Politecnico di Torino, Torino, Italy; ²Consiglio Nazionale delle Ricerche, Messina, Italy;

Paper Id: 265 [\[Abstract\]](#)

16:20: [AdvancedMaterialsSatPM210]

Modular Pavements Application Areas and their specifications

Audrius Vaitkus¹; Judita Grazulyte²; ¹Road Research Institute, Vilnius Gediminas technical university, Vilnius, Lithuania; ², Vilnius, Lithuania;

Paper Id: 90 [\[Abstract\]](#)

16:45: [AdvancedMaterialsSatPM211]

Hydrotalcite Derived Nano-Catalysts in Dry Reforming of Methane Process

Djamilla. Halliche¹; **Patrick J. Masset**²; Zoulikha Abdelsadek³; ¹Laboratory of Chemistry and Natural Gas, Faculty of Chemistry, USTHB, Algiers, Algeria; ²Technallium Engineering & Consulting, Steinberg am See, Germany; ³Laboratory of Chemistry and Natural Gas, Faculty of Chemistry, USTHB, Institute of Electrical and Electronics Engineering, University of M'hamed Bougara, ALgiers, Algeria;

Paper Id: 199 [\[Abstract\]](#)

17:10: [AdvancedMaterialsSatPM212]

Photoluminescence of Phosphors Containing W-O Emission Complexes

Aida Tulegenova¹; **Liudmila Lisitsyna**²; ¹AI-Farabi Kazakh National University, Almaty,, Kazakhstan; ²Tomsk State University of Architecure and Building, Tomsk,, Russian Federation;

Paper Id: 93 [\[Abstract\]](#)

17:35 Break

SESSION 10:
AdvancedMaterialsSatPM3-R2

**5th Intl. Symp. on New and Advanced
Materials and Technologies for Energy,
Environment and Sustainable Development**

Sat Oct, 26 2019

Room: **Leda (99/Mezz. F)**

Session Chairs: Natia **Jalagonia**; Roba **Saab**; Session Monitor: TBA

17:40: [AdvancedMaterialsSatPM313]

Modified Graphene Oxide as Reinforcement for Alumina Based Composite

Natia Jalagonia¹ ; Ekaterine Sanaia² ; Guram Bokuchava³ ; Tinatin Kuchukhidze⁴ ; Nino Darakhvelidze² ; Tamari Archuadze⁵ ; ¹Ilia Vekua Sokhumi Institute of Physics and Technology, Tbilisi, Georgia; ², Tbilisi, Georgia; ³Ilia Vekua Sukhumi Institute of Physics and Technology, Tbilisi, Georgia; ⁴LEPL Ilia Vekua Sukhumi Institute of Physics and Technology, Tbilisi, Georgia; ⁵Ilia Vekua Institute of Physics and technology, Tbilisi, Georgia;

Paper Id: 185 [[Abstract](#)]

18:05: [AdvancedMaterialsSatPM314]

Hierarchical Porous Materials towards a Novel Hydrocracking Catalyst

Roba Saab¹ ; Kyriaki Polychronopoulou¹ ; Andreas Schiffer¹ ; ¹Khalifa University, Abu Dhabi, United Arab Emirates;

Paper Id: 246 [[Abstract](#)]

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 9:
SISAMSatAM-R3
G: Nanoscale(s)

Kobe International Symposium on Science of Innovative and Sustainable Alloys and Magnets (5th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Sat Oct, 26 2019

Room: **Akamas C (140/Gr. F)**

Session Chairs: Ludwig **Schultz**; Session Monitor: TBA

11:20: [SISAMSatAM01]

Comprehensive Modeling of Cu-Ni Nanoparticle Phase-Diagrams Based on Modified Cohesion and Coordination-Dependent Bond Energies

Micha Polak¹ ; Leonid Rubinovich¹ ; ¹Ben-Gurion University of the Negev, Beer-Sheva, Israel;

Paper Id: 104 [\[Abstract\]](#)

11:45: [SISAMSatAM02]

Surface Structure and Properties of Complex Intermetallics

Vincent Fourné¹ ; ¹Institut Jean Lamour, CNRS-Université de Lorraine, NANCY, France;

Paper Id: 318 [\[Abstract\]](#)

12:10: [SISAMSatAM03]

Machine learning for permanent magnet optimization

Thomas Schrefl¹ ; ¹Danube University Krems, Wiener Neustadt, Austria;

Paper Id: 33 [\[Abstract\]](#)

12:35: [SISAMSatAM04] Invited

Magnetic shape memory turns to nano: the crucial role of microstructure engineering

Franca Albertini¹ ; Milad Takhsha Ghahfarokhi¹ ; Francesca Casoli¹ ; Simone Fabbrici¹ ; Lucia Nasi¹ ; Marco Campanini² ; Cesar Magen³ ; Gabriele Barrera⁴ ; Federica Celegato⁵ ; Paola Tiberto⁵ ; ¹IMEM-CNR, Parma, Italy; ²EMPA, Dübendorf, Switzerland; ³Instituto de Nanociencia de Aragón, Zaragoza, Spain; ⁴INRIM,, Torino, Italy; ⁵INRIM, Torino, Italy;

Paper Id: 264 [\[Abstract\]](#)

13:00 LUNCH

SESSION 10:
SISAMSatPM1-R3
H: Characterisation

**Kobe International Symposium on Science of
Innovative and Sustainable Alloys and
Magnets (5th Intl. Symp. on Science of
Intelligent and Sustainable Advanced
Materials (SISAM))**

Sat Oct, 26 2019

Room: **Akamas C (140/Gr. F)**

Session Chairs: Kristina **Rozman**; Session Monitor: TBA

14:00: [SISAMSatPM105]

Correlative Characterization from Atoms to Magnetic Fields in Tb-Doped Nd-Fe-B Magnets

Kristina Zagar Soderznik¹ ; **Saso Sturm**² ; Andras Kovacs³ ; Aleksei Savenko⁴ ; **Marko Soderznik**⁵ ; Rafal Dunin Borkowski⁶ ; Joachim Mayer⁷ ; **Spomenka Kobe**⁸ ;

¹Jožef Stefan Institute, Ljubljana, Slovenia; ²Head of Department for Nanostructured Materials, Ljubljana, Slovenia; ³Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons, Juelich, Germany; ⁴Thermo Fisher Scientific, Erlangen, Germany;

⁵Jožef Stefan Institute, Ljubljana, Slovenia; ⁶Forschungszentrum Jülich, Jülich, Germany; ⁷Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons, Jülich, Germany; ⁸Josef Stefan Institute, Ljubljana, Slovenia;

Paper Id: 347 [\[Abstract\]](#)

14:25: [SISAMSatPM106] Invited

Consolidation and Characterization of Ferrite-Based Hybrid Magnets: Towards Rare-Earth-Free Magnets for Energy Storage

Petra Jenus¹ ; **Andraž Kocjan**¹ ; Claudio Sangregorio² ; Michele Petrecca³ ; César De

Julian Fernandez⁴ ; Blaž Belec⁴ ; **Spomenka Kobe**⁵ ; ¹Jožef Stefan Institute, Ljubljana, Slovenia; ²ICCOM-CNR, Sesto Fiorentino, Italy; ³Dept. of Chemistry, University of Florence and ICCOM - CNR and INSTM, Sesto Fiorentino, Italy; ⁴IMEM-CNR, Parma, Italy; ⁵Josef Stefan Institute, Ljubljana, Slovenia;

Paper Id: 97 [\[Abstract\]](#)

14:50: [SISAMSatPM107]

Surface patterning by thermoplastic forming of Ni-free Ti-based bulk metallic glasses

Mariana Calin¹ ; Supriya Bera¹ ; Baran Sarac² ; Juergen Eckert² ; ¹IFW Dresden, Dresden, Germany; ²Erich Schmid Institute of Materials Science, Leoben, Austria;

Paper Id: 285 [\[Abstract\]](#)

15:15: [SISAMSatPM108]

Bulk metallic glasses studied by fast calorimetry combined with time resolved X-ray diffraction

Florian Spieckermann¹ ; Innozeznz Steffny² ; Xilei Bian² ; Sergey Ketov² ; Mihai Stoica³ ; Martin Rosenthal⁴ ; Juergen Eckert⁵ ; ¹University of Leoben, Leoben, Austria; ²Erich Schmid Institute, Austrian Academy of Sciences, Leoben, Austria; ³ETH Zuerich, Zuerich, Switzerland; ⁴ESRF, Grenoble, France; ⁵Erich Schmid Institute of Materials Science, Leoben, Austria;

Paper Id: 103 [\[Abstract\]](#)

15:40 Break

SESSION 11:
SISAMSatPM2-R3
H: Characterization cont.

**Kobe International Symposium on Science of
Innovative and Sustainable Alloys and
Magnets (5th Intl. Symp. on Science of
Intelligent and Sustainable Advanced
Materials (SISAM))**

Sat Oct, 26 2019

Room: **Akamas C (140/Gr. F)**

Session Chairs: Petra **Jenus**; Session Monitor: TBA

15:55: [SISAMSatPM209]

Amorphous Al-Ce-Cu-Fe alloys: Glass formation and properties

Luka Kelhar¹ ; Spomenka Kobe² ; Jean-marie Dubois³ ; ¹JSI - K7 Dpt, Ljubljana, Slovenia; ²Josef Stefan Institute, Ljubljana, Slovenia; ³JSI - K7 Dpt for Nanostructured Materials, Ljubljana, Slovenia;

Paper Id: 275 [\[Abstract\]](#)

16:20: [SISAMSatPM210] Keynote

From efficiency to effectiveness: Where technology innovation meets sustainability

Peter Fantke¹ ; ¹Technical University of Denmark (DTU), Kgs. Lyngby, Denmark;

Paper Id: 79 [\[Abstract\]](#)

16:45: [SISAMSatPM211]

Metal-Bonded Magnets Based on YCo5-Type Nanocrystals

Marko Soderžnik¹ ; Matic Korent² ; Kristina Zagar Soderžnik³ ; Jean-marie Dubois⁴ ; Pelin Tozman⁵ ; M. Venkatesan⁶ ; Michael Coey⁷ ; Spomenka Kobe⁸ ; ¹Jožef Stefan Institute, Ljubljana, Slovenia, Ljubljana, Slovenia; ²Jozef Stefan Institute, LJUBLJANA, Slovenia; ³Jozef Stefan Institute, Ljubljana, Slovenia; ⁴JSI - K7 Dpt for Nanostructured Materials, Ljubljana, Slovenia; ⁵NIMS, Tsukuba, Japan; ⁶School of Physics and CRANN, Trinity College, Dublin, Ireland; ⁷School of Physics, Dublin, Ireland; ⁸Josef Stefan Institute, Ljubljana, Slovenia;

Paper Id: 342 [\[Abstract\]](#)

17:10 Round Table

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:
RecyclingSatAM-R4

Kozlov International Symposium on Sustainable Materials Recycling Processes and Products (7th Intl. Symp. on Sustainable Materials Recycling Processes and Products)

Sat Oct, 26 2019

Room: **Avacas (98/Mezz. F)**

Session Chairs: Florian **Kongoli**; Dominik **Hofer**; Session Monitor: TBA

11:20: [RecyclingSatAM01]

Non-ferrous and Ferrous Dust Processing by Waelz Process

Pavel Kozlov¹ ; Leontyev Leopold Igoryevich² ; Dyubanov Valeriy Grigorievich³ ;

¹UMMC-Holding, Moscow, Russian Federation; ²Russian Academy of Sciences, Moscow, Russian Federation; ³Baykov Metallurgy & Materials Institute, Moscow, Russian Federation;

Paper Id: 134 [\[Abstract\]](#)

11:45: [RecyclingSatAM02] Keynote

Control and Optimization of Steel Dust Rotary Kiln Operations through FLOGEN CONTOP System

Florian Kongoli¹ ; Marcos De Souza² ; ¹FLOGEN Technologies Inc., Mont-Royal, Canada; ²FLOGEN Technologies Inc, Sao Paulo, Brazil;

Paper Id: 483 [\[Abstract\]](#)

12:10: [RecyclingSatAM03]

Optimization of a Leaching Process for Pulverized Metal-Containing Residues

Eva Gerold¹ ; Stefan Luidold² ; ¹Montanuniversitaet Leoben, Chair of Nonferrous Metallurgy, Leoben, Austria; ²Montanuniversitaet Leoben, Leoben, Austria;

Paper Id: 234 [\[Abstract\]](#)

12:35: [RecyclingSatAM04]

Comparison of Two Dross Press Systems in the Aluminum Recycling Industry

Stefan Wibner¹ ; Helmut Antrekowitsch² ; ¹, Leoben, Austria; ²Montanuniversitaet Leoben, Leoben, Austria;

Paper Id: 240 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
RecyclingSatPM1-R4

Kozlov International Symposium on Sustainable Materials Recycling Processes and Products (7th Intl. Symp. on Sustainable Materials Recycling Processes and Products)

Sat Oct, 26 2019

Room: **Avacas (98/Mezz. F)**

Session Chairs: Tsuyoshi **Hoshino**; Alexandra-Georgiana **Vatui**; Session Monitor: TBA

14:00: [RecyclingSatPM105]

Slag Basicity Variation at Block Smelting for the Recycling of Tantalum

Dominik Hofer¹; Stefan Luidold²; Tobias Beckmann³; ¹Montanuniversitaet Leoben, Chair of Nonferrous Metallurgy, Leoben, Austria; ²Montanuniversitaet Leoben, Leoben, Austria; ³H.C.Starck Tantalum & Niobium GmbH, Laufenburg, Germany;

Paper Id: 228 [\[Abstract\]](#)

14:25: [RecyclingSatPM106] Keynote

Lithium Recycling from Used Li-ion Batteries using Innovative Dialysis with Lithium Ionic Conductor Membrane

Tsuyoshi Hoshino¹; ¹National Institutes for Quantum and Radiological Science and Technology (QST), Rokkasho-mura, Kamikita-gun, Japan;

Paper Id: 165 [\[Abstract\]](#)

14:50: [RecyclingSatPM107]

Turning the Extractive-Waste Problems Into a Resource-Recovery Opportunity

Teodor Velea¹; **Alexandra-georgiana Vatui**²; **Ionut Macarescu**²; Ioana Andreea Chirea²; Mika Paajanen³; Lieven Machiels⁴; Carlos Frias Gomez⁵; Vasile Predica⁶; Manuel Sevilla⁷; ¹National Research- Development Institute for Nonferrous and Rare Metals- IMNR Bucharest, Romania, Pantelimon, Romania; ²National Research-Development Institute for Nonferrous and Rare Metals- IMNR Bucharest, Romania, ILFOV, Romania; ³VTT TECHNICAL RESEARCH CENTRE OF FINLAND LTD, Tampere, Finland; ⁴, Heverlee, Belgium; ⁵Cobre las Cruces, S.A., Sevilla, Spain; ⁶National Research & Development Institute for Non-Ferrous and Rare Metals, Ilfov, Romania; ⁷COBRE LAS CRUCES (CLC), Seville, Spain;

Paper Id: 243 [\[Abstract\]](#)

15:15: [RecyclingSatPM108]

Simultaneous Synthesis And Characterization of Anhydrite and LimeGyp From Nonmetallic LD Slag Fines By a Zero Discharge Hydro-metallurgical Process

Shrenivas Ashrit¹; Ravikrishna Chatti¹; Supriya Sarkar¹; ¹Tata Steel Limited, Jamshedpur, Jamshedpur, India;

Paper Id: 37 [\[Abstract\]](#)

15:40 Break

SESSION 3:
RecyclingSatPM2-R4

**Kozlov International Symposium on
Sustainable Materials Recycling Processes
and Products (7th Intl. Symp. on Sustainable
Materials Recycling Processes and Products)**

Sat Oct, 26 2019

Room: **Avacas (98/Mezz. F)**

Session Chairs: Stefan **Steinlechner**; Eva **Gerold**; Session Monitor: TBA

15:55: [RecyclingSatPM209]

Selective Vaporization of Indium and Silver from an Iron Precipitation Sludge via a Reductive Chlorination Process

Stefan Steinlechner¹ ; ¹Chair of Nonferrous Metallurgy, Leoben, Austria;

Paper Id: 187 [\[Abstract\]](#)

16:20: [RecyclingSatPM210] Keynote

Rotary Kiln Dust As A Raw Material For Production Of The Magnesium Sulphate In MIM - GOLESHI

Shefik Imeri¹ ; Florian Kongoli² ; ¹MIM-GOLESH, Prishtina, Kosovo; ²FLOGEN Technologies Inc., Mont-Royal, Canada;

Paper Id: 167 [\[Abstract\]](#)

16:45: [RecyclingSatPM211]

EFFICIENT USE OF ZINC-CONTAINING BLAST FURNACE DUST IS POSSIBLE WHEN IT IS PROCESSED TOGETHER WITH ZINC ORE IN ROTATING TUBE FURNACES

Madali Naimanbayev¹ ; ¹Center of Earth Sciences, Metallurgy and Ore Benefication, Almaty, Kazakhstan;

Paper Id: 176 [\[Abstract\]](#)

17:10: [RecyclingSatPM212]

An Investigation on the Pyrometallurgical Recovery of Gold from Jewellery Workshop Wastes Using a Mixture of Fluxes

Pouria Zakeri Ketabi¹ ; Hossein Astaraki¹ ; **Manadana Adeli**² ; ¹Iran University of Science & Technology, Tehran, Iran; ²School of Metallurgy and Materials Engineering, Iran University of Science and Technology, Tehran, Iran;

Paper Id: 277 [\[Abstract\]](#)

17:35 Break

SESSION 4:
RecyclingSatPM3-R4

**Kozlov International Symposium on
Sustainable Materials Recycling Processes
and Products (7th Intl. Symp. on Sustainable
Materials Recycling Processes and Products)**

Sat Oct, 26 2019

Room: **Avacas (98/Mezz. F)**

Session Chairs: Stefan **Wibner**; Ionut **Macarescu**; Session Monitor: TBA

17:40: [RecyclingSatPM313]

Initial stages of nitride spent nuclear fuel (SNF) processing Thermodynamic modeling and experimental results

Alexei Potapov¹ ; Kirill Karimov¹ ; Vladimir Shishkin¹ ; Mikhail Mazannikov¹ ; Yurii Zaikov¹ ; ¹Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;

Paper Id: 292 [\[Abstract\]](#)

18:05: [RecyclingSatPM314]

Structure Study of Polymeric Materials During Recycling and Additive Influence in their Characteristics

Indrit Vozga¹ ; Jorgaq Kacani² ; ¹, Tirana, Albania; ²Universiteti Politeknik Tirane, Tirane, Albania;

Paper Id: 457 [\[Abstract\]](#)

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:
MiningSatAM-R5

Parameswaran International Symposium on Sustainable Mining and Smelting Operations (6th Intl. Symp. on Sustainable Mining Operations)

Sat Oct, 26 2019

Room: **Zeus (55/Mezz. F)**

Session Chairs: Lang Liu; Wenchen Li; Session Monitor: TBA

11:20: [MiningSatAM01] Plenary

From Silk Purses and Lead Balloons to Mining and Sustainable Development: A Wonderful Journey

Krishna Parameswaran¹ ; 1tfgMM Strategic Consulting, Scottsdale, United States;

Paper Id: 469 [\[Abstract\]](#)

11:45: [MiningSatAM02] Keynote

Sulphate Effect on Strength and Self-desiccation Development of Cemented and Slag-Cemented Paste Backfill

Wenchen Li¹ ; Lijie Guo² ; ¹Beijing General Research Institute of Mining and Metallurgy, Beijing, China;

Paper Id: 425 [\[Abstract\]](#)

12:10: [MiningSatAM03]

Functional Backfill and Its Future in Mining

Lang Liu¹ ; ¹XI'AN University of Science and Technology, Xi'an, China;

Paper Id: 422 [\[Abstract\]](#)

12:35: [MiningSatAM04]

Required strength evaluation model and its application for vertically exposed backfill: inspired by Mitchell's physical model tests

Guangsheng Liu¹ ; Lijie .guo² ; Xiaocong Yang¹ ; ¹BGRIMM Technology Group, Beijing, China; ²Beijing General Research Institute of Mining & Metallurgy, Beijing, China;

Paper Id: 418 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
MiningSatPM1-R5

Parameswaran International Symposium on Sustainable Mining and Smelting Operations (6th Intl. Symp. on Sustainable Mining Operations)

Sat Oct, 26 2019

Room: **Zeus (55/Mezz. F)**

Session Chairs: Danai **Tsakiri**; Guangsheng **Liu**; Session Monitor: TBA

14:00: [MiningSatPM105]

Dynamic Solidification of Multiphase Alloys Within Ultrasonic Field

Wei Zhai¹ ; Bingbo **Wei**² ; ¹Northwestern Polytechnical University, China, Xi'an, China;

²Northwestern Polytechnical University, China, Xi'an, China;

Paper Id: 389 [\[Abstract\]](#)

14:25: [MiningSatPM106]

A Comparative Study Between Surface and Physicochemical Properties of Materials Produced by Oxalic and Sulphuric Acid Activation on Different Smectite Samples

Danai Tsakiri¹ ; Iliana **Douni**¹ ; Maria **Taxiarchou**¹ ; ¹National Technical University of Athens, Athens, Greece;

Paper Id: 245 [\[Abstract\]](#)

14:50: [MiningSatPM107]

The Application of Green Chemistry SuperLig® Molecular Recognition Technology and Other Sustainable Processes at Copper Electrorefineries

Luis Navarro¹ ; Ronald **Bruening**¹ ; Reed **Izatt**¹ ; ¹IBC Advanced Technologies, American Fork, United States;

Paper Id: 450 [\[Abstract\]](#)

15:15: [MiningSatPM108]

Sustainability of mined materials: an assessment of U.S. copper in a life cycle framework

Miranda Gorman¹ ; David **Dzombak**² ; ¹Carnegie Mellon University, Pittsburgh, United States; ²Carnegie Mellon University(CMU), Pittsburgh, United States;

Paper Id: 251 [\[Abstract\]](#)

15:40 Break

SESSION 3:
MiningSatPM2-R5

Parameswaran International Symposium on Sustainable Mining and Smelting Operations (6th Intl. Symp. on Sustainable Mining Operations)

Sat Oct, 26 2019

Room: **Zeus (55/Mezz. F)**

Session Chairs: Greg **Baiden**; Vaikuntam **Lakshmanan**; Session Monitor: TBA

15:55: [MiningSatPM209]

The Role Of Clean Technologies For Sustainable Development

Aghil Ojaghi¹ ; Vaikuntam Lakshmanan¹ ; ¹Process Research ORTECH Inc,

Mississauga, Canada;

Paper Id: 438 [\[Abstract\]](#)

16:20: [MiningSatPM210]

Lunar Mining - Stretching Human Knowledge in Mining, Telecommunications, Energy, and Robotics

Greg Baiden¹ ; ¹Penguin Automated Systems Inc., Naughton, Canada;

Paper Id: 172 [\[Abstract\]](#)

16:45: [MiningSatPM211]

Mineral Certified Reference Material: The Best Tool to Achieve Reliable Analytical Data

Maria Alice Goes¹ ; ¹Center for Mineral Technology - CETEM, Rio de Janeiro, Brazil;

Paper Id: 111 [\[Abstract\]](#)

17:10 Round Table

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 1:

MathematicsSatAM-R6

4th Intl. Symp. on Sustainable Mathematics
Applications

Sat Oct, 26 2019

Room: **Hermes (64/Mezz. F)**

Session Chairs: Peter **Rowlands**; Avraam **Konstantinidis**; Session Monitor: TBA

11:20: [MathematicsSatAM01]

Nature's algebra

Peter Rowlands¹; ¹University of Liverpool, Liverpool, United Kingdom;

Paper Id: 395 [\[Abstract\]](#)

11:45: [MathematicsSatAM02]

Nanoindentation: A New Modeling Approach to an Old Measuring Technique

Avraam Konstantinidis¹; ¹Aristotle University of Thessaloniki, Thessaloniki, Greece;

Paper Id: 86 [\[Abstract\]](#)

12:10: [MathematicsSatAM03]

Modelling and Simulating Various Scenarios of Electricity Demand to Optimize the Cascade Production

Eralda Gjika¹; Aurora Ferrja¹; Lule Basha¹; Arbesa Kamberi²; ¹University of Tirana, Tirana, Albania; ²Albanian Power Corporation, Tirana, Albania;

Paper Id: 357 [\[Abstract\]](#)

12:35: [MathematicsSatAM04]

On The Convergence Of An Evolutionary Algorithm, Particle Swarm Optimization (PSO) And Its Application

Besiana Cobani¹; Aurora Ferrja¹; ¹University of Tirana, Tirana, Albania;

Paper Id: 451 [\[Abstract\]](#)

13:00 LUNCH

SESSION 2:
MathematicsSatPM1-R6

**4th Intl. Symp. on Sustainable Mathematics
Applications**

Sat Oct, 26 2019 / Room:
Hermes (64/Mezz. F)

Session Chairs: Aurora **Ferrja**; Besiana **Cobani**; Session Monitor: TBA

14:00: [MathematicsSatPM105]

**A Combination Of The Finite Element Method With GMRES To Obtain An
Efficient Algorithm To Solve An Eigenvalue Problem**

Aurora Ferrja¹ ; Besiana Cobani¹ ; ¹University of Tirana, Tirana, Albania;

Paper Id: 452 [\[Abstract\]](#)

14:25 Round Table

14:50 Round Table

15:15 Round Table

15:40 Break

15:55 Round Table

16:20 Round Table

16:45 Round Table

17:10 Round Table

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 9:
GeomechanicsSatAM-R7

**Schrefler International Symposium on
Geomechanics and Applications for
Sustainable Development**

Sat Oct, 26 2019

Room: **Athena (105/Mezz. F)**

Session Chairs: Marek **Lefik**; Francesco **Pesavento**; Session Monitor: TBA

11:20: [GeomechanicsSatAM01] Keynote

Coupled Problems in Fracture Propagation in Fluid-Saturated Porous Media

Joris Remmers¹ ; Elisa Bergkamp¹ ; Clemens Verhoosel¹ ; **David Smeulders**² ; ¹TUE, Eindhoven, Netherlands; ²Eindhoven University of Technology, Eindhoven, Netherlands;

Paper Id: 303 [\[Abstract\]](#)

11:45: [GeomechanicsSatAM02] Keynote

Phase-field modelling of desiccation cracks in variably saturated porous media

Lorenzo Sanavia¹ ; Tuanny Cajuhi² ; Claudio Gavagnin² ; Laura De Lorenzis² ;

¹University of Padova, Padova, Italy; ²Technische Universität Braunschweig, Braunschweig, Germany;

Paper Id: 376 [\[Abstract\]](#)

12:10: [GeomechanicsSatAM03] Keynote

Examples of inverse problem in geotechnics: comparative analysis of various strategies of solutions involving artificial neural networks

Marek Lefik¹ ; Marek Wojciechowski² ; ¹Lodz University of Technology, Kalonka, Poland; ²Lodz University of Technology, Lodz, Poland;

Paper Id: 216 [\[Abstract\]](#)

12:35: [GeomechanicsSatAM04]

Quasi-Zero-Thickness Interface Elements for the Simulation of Fracture Processes in Geomechanics

Ignasi De Pouplana Sarda¹ ; Eugenio Oñate¹ ; ¹CIMNE - Centre Internacional de Metodes Numerics en Enginyeria, Barcelona, Spain;

Paper Id: 332 [\[Abstract\]](#)

13:00 LUNCH

SESSION 10:
GeomechanicsSatPM1-R7

**Schrefler International Symposium on
Geomechanics and Applications for
Sustainable Development**

Sat Oct, 26 2019

Room: **Athena (105/Mezz. F)**

Session Chairs: Konrad **Bergmeister**; Manuel **Pastor**; Session Monitor: TBA

14:00: [GeomechanicsSatPM105] Keynote

The New Paradigm of Thunderstorm Downbursts for Safe and Sustainable Development

Giovanni Solari¹ ; ¹University of Genoa, Genova, Italy;

Paper Id: 64 [\[Abstract\]](#)

14:25: [GeomechanicsSatPM106] Keynote

A Multiphysics Approach for High Temperature Superconducting Tapes

Daniela P. Boso¹ ; ¹University of Padova, Padova, Italy;

Paper Id: 369 [\[Abstract\]](#)

14:50: [GeomechanicsSatPM107]

Computational Simulations of Catastrophic Plate Tectonics in our Earth's History

Mark F. Horstemeyer¹ ; ¹Liberty University, Virginia, United States;

Paper Id: 446 [\[Abstract\]](#)

15:15: [GeomechanicsSatPM108] Plenary

Fighting Singularities in Solids and Fluids

Elias Aifantis¹ ; ¹Aristotle University of Thessaloniki, Thessaloniki, Greece;

Paper Id: 447 [\[Abstract\]](#)

15:40 Break

SESSION 11:
GeomechanicsSatPM2-R7

**Schrefler International Symposium on
Geomechanics and Applications for
Sustainable Development**

Sat Oct, 26 2019

Room: **Athena (105/Mezz. F)**

Session Chairs: Gennady **Mishuris**; Carlo **Pellegrino**; Session Monitor: TBA

15:55: [GeomechanicsSatPM209] Invited

From Civil Engineering to Oncophysics: Successful and Present Challenging Applications of Multiphase Porous Media Mechanics

Giuseppe Sciumè¹ ; Stefano Dal Pont² ; ¹Université de Bordeaux, Bordeaux, France;

²Laboratoire Sols, Solides, Structures, Risques (3SR), Grenoble, France;

Paper Id: 310 [\[Abstract\]](#)

16:20: [GeomechanicsSatPM210] Plenary

Hybrid Twins: the new data-driven and physics-based alliance

Francisco Chinesta¹ ; ¹Arts et Metiers, ParisTech, Paris, France;

Paper Id: 180 [\[Abstract\]](#)

16:45: [GeomechanicsSatPM211] Keynote

On Surface Elasticity Models and Their Applications to Description of Material Behavior at the Nano- and Micro-Scales

Victor Eremeyev¹ ; Leonid Igumnov² ; Svetlana Litvinchuk² ; Ivan Volkov² ; ¹Gdansk

University of Technology, Gdansk, Poland; ²National Research Lobachevsky State

University of Nizhny Novgorod, Nizhny Novgorod, Russian Federation;

Paper Id: 262 [\[Abstract\]](#)

17:10: [GeomechanicsSatPM212] Plenary

Modelling and Computation of Interfaces in Multiphase Flows

Alfredo Soldati¹ ; ¹Tu Wien, Wien, Austria;

Paper Id: 327 [\[Abstract\]](#)

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 9:
IronSatAM-R8

Usui International Symposium on Advanced Sustainable Iron and Steel Making (7th Intl. Symp. on Advanced Sustainable Iron and Steel Making)

Sat Oct, 26 2019

Room: **Ambrosia B (77/RF)**

Session Chairs: Tateo **Usui**; Juergen **Antrekowitsch**; Session Monitor: TBA

11:20: [IronSatAM01] Plenary

Assessment Guidelines for Industrial By-Products

Juergen Antrekowitsch¹ ; ¹Christian Doppler Association, University of Leoben, Leoben, Austria;

Paper Id: 286 [\[Abstract\]](#)

11:45: [IronSatAM02]

Highly Efficient Use Technology of the By-Product Gas in Iron and Steel Making Process

Hanlin Song¹ ; Xiangxin Xue¹ ; ¹Northeastern University, Shenyang, China;

Paper Id: 375 [\[Abstract\]](#)

12:10: [IronSatAM03]

Methods to Remove Tramp Elements in Steel for Recycling Ferrous Scraps

Hideki Ono¹ ; Kenji Taguchi² ; Katsuhiro Yamaguchi³ ; **Tateo Usui**⁴ ; ¹University of Toyama, Toyama, Japan; ²Nippon Stool Corporation, Tokai City, Japan; ³Kobe Steel, Ltd., Kobe City, Japan; ⁴Osaka University, Ibaraki, Japan;

Paper Id: 416 [\[Abstract\]](#)

12:35: [IronSatAM04] Invited

Antifouling Activity of Natural Products of Marine Macroalgae Against the Limnoperna Fortunei - Golden Mussel. A Review.

Camila Freitas De Araújo¹ ; Adriano Batista² ; Bernardo Da Gama³ ; Renato Crespo Pereira⁴ ; Rodrigo Pinheiro De Almeida Santos⁵ ; Bruna Helena Malovini Loiola⁶ ; Paulo Assis⁷ ; Tateo Usui⁸ ; ¹Federal University of Ouro Preto - UFOP/REDEMAT, Ouro Preto, Brazil; ²IFMG, Ouro Preto, Brazil; ³UFF, Niterói, Brazil; ⁴Instituto de Pesquisas Jardim Botânico do Rio de Janeiro, Rio de Janeiro, Brazil; ⁵Departamento de Biologia Marinha - Fluminense Federal University, Niterói, Brazil; ⁶Federal University of Ouro Preto - REDEMAT, Ouro Preto, Brazil; ⁷University of Ouro Preto / REDEMAT, Ouro Preto, Brazil; ⁸Osaka University, Ibaraki, Japan;

Paper Id: 365 [\[Abstract\]](#)

13:00 LUNCH

SESSION 10:
IronSatPM1-R8

Usui International Symposium on Advanced Sustainable Iron and Steel Making (7th Intl. Symp. on Advanced Sustainable Iron and Steel Making)

Sat Oct, 26 2019
Room: **Ambrosia B (77/RF)**

Session Chairs: Mery-Cecilia **Gomez-Marroquin**; Masashi **Nakamoto**; Session Monitor: TBA

14:00: [IronSatPM105]

Estimation of thermodynamic parameters in liquid metal based on predictive model for surface tension of liquid alloys

Masashi Nakamoto¹ ; ¹Osaka University, Suita, Japan;

Paper Id: 423 [\[Abstract\]](#)

14:25: [IronSatPM106]

Leaching Behavior and Chemical Structure of Boron in Steelmaking Slag with Different Basicity

Yohsuke Masaki¹ ; Takafumi Takahashi² ; Koji Kanehashi² ; ¹Nippon Steel Corporation, Ibaraki, Japan; ²Nippon Steel Corporation, Chiba, Japan;

Paper Id: 350 [\[Abstract\]](#)

14:50: [IronSatPM107]

Hierarchizing BOF Slopping Variables from Big Data Analysis

Bruna Helena Malovini Loiola¹ ; Carlos Antônio Silva¹ ; Henrique Silva Furtado² ; Camila Freitas De Araújo³ ; Paulo Assis⁴ ; Tateo Usui⁵ ; ¹Federal University of Ouro Preto - REDEMAT, Ouro Preto, Brazil; ²+55 27 33483601, Vitoria, Brazil; ³Federal University of Ouro Preto - UFOP/REDEMAT, Ouro Preto, Brazil; ⁴University of Ouro Preto / REDEMAT, Ouro Preto, Brazil; ⁵Osaka University, Ibaraki, Japan;

Paper Id: 371 [\[Abstract\]](#)

15:15: [IronSatPM108]

Effect Of Bentonite On The Stabilization and Mechanical Strength of Bricks Made of Peruvian Electric Arc Furnace Dusts

Mery-cecilia Gomez Marroquin¹ ; Jose Carlos D Abreu² ; ¹National University of Engineering, Lima, Peru; ²PUC-Rio, Rio de Janeiro, Brazil;

Paper Id: 326 [\[Abstract\]](#)

15:40 Break

SESSION 4:
NanomaterialsSatPM2-R8

**6th Intl. Symp. on Synthesis and Properties of
Nanomaterials for Future Energy Demands**

Sat Oct, 26 2019

Room: **Ambrosia B (77/RF)**

Session Chairs: Chun Li; Damian **Onwuide**; Session Monitor: TBA

15:55: [NanomaterialsSatPM209]

Copper Tin Sulphide Nanocrystals For Photovoltaics

Damian Onwuide¹ ; ¹North-West University, South Africa, Mmabatho, South Africa;
Paper Id: 434 [\[Abstract\]](#)

16:20: [NanomaterialsSatPM210] Invited

**Calcium Phosphate-based Composites for Medical Applications:
Physicochemical, Mechanical and Surface Properties**

Hassan Noukrati¹ ; Christele Combes² ; Hicham Ben Youcef³ ; Hassane Oudadesse⁴ ;
Christian Rey² ; **Allal Barroug**⁵ ; ¹University Cadi Ayyad - Marrakech, MARRAKECH,
Morocco; ²University of Toulouse, CIRIMAT, ENSIACET, Toulouse, France;
³Mohammed VI Polytechnic University, Benguerir, Morocco; ⁴University of rennes 1,
Rennes, France; ⁵Ballal00111957&, Marrakech, Morocco;
Paper Id: 287 [\[Abstract\]](#)

16:45: [NanomaterialsSatPM211]

**Influence of Adhesive Layer on Ballistic Performance of Ceramic-based Armour
Systems**

Chun Li¹ ; Saleema Noormohammed Noormohammed² ; Yadienka Martinez Rubi¹ ;
Geneviève Toussaint³ ; Behnam Ashrafi⁴ ; Michael Jakubinek¹ ; ¹National Research
Council Canada, Ottawa, Canada; ²National Research Council Canada, Saguenay,
Canada; ³Defence Research and Development Canada, Valcartier, Canada; ⁴National
Research Council Canada, Montreal, Canada;
Paper Id: 28 [\[Abstract\]](#)

17:10: [NanomaterialsSatPM212]

**Formation of New Architecture of Boron Based Composite Powders under Effect
of Concentrated Light**

Lina Sartinska¹ ; Izabella Timofeeva¹ ; Tarik Eren² ; Anatoly Efimov³ ; Olena Fecenko⁴
; ¹Frantsevich Institute for Problems of Materials Science, NAS of Ukraine, Kyiv,
Ukraine; ²Yildiz Technical University, Istanbul, Turkey, Istanbul, Turkey; ³Los Alamos
National Laboratory, Los Alamos, USA, Los Alamos, United States; ⁴Institute of
Physics, NASU, Kyiv, Ukraine, Kyiv, Ukraine;
Paper Id: 261 [\[Abstract\]](#)

17:35 Break

SESSION 5:
NanomaterialsSatPM3-R8

**6th Intl. Symp. on Synthesis and Properties of
Nanomaterials for Future Energy Demands**

Sat Oct, 26 2019

Room: **Ambrosia B (77/RF)**

Session Chairs: Elizabeth **Oliveira**; Ayesha **Alkhoori**; Session Monitor: TBA

17:40: [NanomaterialsSatPM313]

Hydrogen Production via the Glycerol Steam Reforming using Ce-La-xCu Catalysts

Ayesha Alkhoori¹ ; Kyriaki Polychronopoulou¹ ; ¹Khalifa University, Abu Dhabi, United Arab Emirates;

Paper Id: 231 [\[Abstract\]](#)

18:05: [NanomaterialsSatPM314]

Analysis of the Efficiency of the Soil Particles of Landfill Layers as Collector of Harzadous Nanoparticles in the Environment

Elizabeth Oliveira¹ ; Jose Adilson De Castro² ; Ivaldo Leão Ferreira³ ; Mara Do Carmo Paresque⁴ ; ¹Center for Technological Education Celso Suckow da Fonseca, Valenca, Brazil; ²UFF - Federal Fluminense University, Volta Redonda, Brazil; ³UFPA, Belem, Brazil; ⁴UFF-Programa de Pos Graduação em Engenharia Metalurgica, Volta Redonda, Brazil;

Paper Id: 202 [\[Abstract\]](#)

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

10:30 AM Break

SESSION 9:
ChemistrySatAM-R9

Tressaud International Symposium on Solid
State Chemistry for Applications and
Sustainable Development

Sat Oct, 26 2019

Room: **Aphrodite A (100/Gr. F)**

Session Chairs: Janina **Molenda**; Fernand D. S. **Marquis**; Session Monitor: TBA

11:20: [ChemistrySatAM01] Keynote

Cellulose based functional materials in flexible electronic devices

Luis Pereira¹ ; ¹CENIMAT/I3N, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Caparica, Portugal;

Paper Id: 439 [\[Abstract\]](#)

11:45: [ChemistrySatAM02]

Homoleptic Fluoride Complexes as Modules for Molecular Spin-Architectures

Kasper Pedersen¹ ; ¹Technical University of Denmark, Lyngby, Denmark;

Paper Id: 397 [\[Abstract\]](#)

12:10: [ChemistrySatAM03]

The Way to White Light Emitting Diodes by Quantum Chemical Calculations

Werner Urland¹ ; ¹Private Institute of Theoretical Chemical Physics, Muralto, Switzerland;

Paper Id: 26 [\[Abstract\]](#)

12:35: [ChemistrySatAM04]

Spinodal Decomposition in the TiO₂-VO₂ system

Zenji Hiroi¹ ; ¹Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan;

Paper Id: 184 [\[Abstract\]](#)

13:00 LUNCH

SESSION 10:
ChemistrySatPM1-R9

Tressaud International Symposium on Solid
State Chemistry for Applications and
Sustainable Development

Sat Oct, 26 2019

Room: **Aphrodite A (100/Gr. F)**

Session Chairs: Yuichi **Shimakawa**; Alain **Demourgues**; Session Monitor: TBA

14:00: [ChemistrySatPM105] Plenary

Carbon Nanotubes and Graphene Hybrid Materials Systems for Multifunctional Applications

Fernand D. S. Marquis¹ ; ¹San Diego State University, San Diego, United States;

Paper Id: 335 [\[Abstract\]](#)

14:25: [ChemistrySatPM106]

Combined experimental and modelling approaches for assessing and predicting the existence of new phases in the field of Solid State Chemistry

Jean Etourneau¹ ; Samir F. Matar² ; ¹University of Bordeaux, Bordeaux, France;

²Lebanese German University, Jounieh, Lebanon;

Paper Id: 370 [\[Abstract\]](#)

14:50: [ChemistrySatPM107] Keynote

High Energy Primary Lithium Battery using Oxidized Sub-Fluorinated Graphite Fluorides

Marc Dubois¹ ; ¹Clermont Auvergne University, Aubière, France;

Paper Id: 283 [\[Abstract\]](#)

15:15: [ChemistrySatPM108]

The Fascinating World of Fluoropolymers: From the Synthesis to Applications

Bruno Ameduri¹ ; Mohammad Wehbi² ; ¹Institute Charles Gerhardt Montpellier, Montpellier, France; ²ICGM, Montpellier, France;

Paper Id: 38 [\[Abstract\]](#)

15:40 Break

SESSION 11:
ChemistrySatPM2-R9

Tressaud International Symposium on Solid
State Chemistry for Applications and
Sustainable Development

Sat Oct, 26 2019

Room: **Aphrodite A (100/Gr. F)**

Session Chairs: Werner **Urland**; Zenji **Hiroi**; Session Monitor: TBA

15:55: [ChemistrySatPM209] Plenary

Future of Electron Correlated Materials: from Multiferroics to Nanomagnets and to Thermoelectrics

Bernard Raveau¹ ; ¹University of Caen, Normandy, France;

Paper Id: 171 [\[Abstract\]](#)

16:20: [ChemistrySatPM210]

Impact Of Trepca Mine On Drinking Water In Some Villages And Its Impact On Health

Florent Dobroski¹ ; ¹Universiteti i Mitrovices "Isa Boletini", Mitrovica, Kosovo;

Paper Id: 72 [\[Abstract\]](#)

16:45: [ChemistrySatPM211] Invited

Modified Fluoride ZBLAN Glasses

Maria Brekhovskikh¹ ; Liudmila Moiseeva² ; ¹Kurnakov Institute of General and Inorganic Chemistry, Russian Academy of Sciences, Moscow, Russian Federation; ²Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russian Federation;

Paper Id: 57 [\[Abstract\]](#)

17:10 Round Table

17:35 Break

17:40 Round Table

18:05 Round Table

19:30 Dinner

Posters

SESSION: MoltenPoster	Angell International Symposium on Molten Salt, Ionic & Glass-forming Liquids: Processing and Sustainability (7th Intl. Symp. on Molten Salt, Ionic & Glass-forming Liquids: Processing and Sustainability).
Poster Session	Room: Foyer 23-27 Oct, 2019

[MoltenPoster1] **Electrochemical Behaviour of Tungsten Oxide and its Compounds in Carbamide Melts**

Sergei. Devyatkin ¹ ; Svetlana. Kochetova ² ; ¹Institute of General and Inorganic Chemistr, Kiev, Ukraine; ²V.I. Vernadsky Institute of General and Inorganic Chemistry of the National Academy of Sciences of Ukraine, Kyiv, Ukraine;

Paper Id: 14 [\[Abstract\]](#)

[MoltenPoster2] **Thermophysical Properties and Citotoxicity of New Biologically Friendly Agmatine-based Ionic Liquids and Salts**

Jovana. Panic ¹ ; Aleksandar. Tot ² ; Slobodan. Gadzuric ¹ ; Milan. Vraneš ¹ ; ¹Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia and Montenegro (formerly Yugoslavia); ²Faculty of Sciences, University of Novi Sad, Department of Chemistry, Biochemistry and Environmental Protection, Novi Sad, Serbia and Montenegro (formerly Yugoslavia);

Paper Id: 45 [\[Abstract\]](#)

[MoltenPoster3] **Electrochemical study of anatase TiO₂ nanotube arrays electrode in electrolyte based on 1,3-diethylimidazolium bis(trifluoromethylsulfonyl)imide ionic liquid**

Snezana. Papovic ¹ ; Milan. Vraneš ² ; Nikola. Cvjeticanin ³ ; Slobodan. Gadzuric ² ; Sanja. Dozic ² ; ¹Faculty of Science, Department of Chemistry, Biochemistry and Environmental Protection, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, Novi Sad, Serbia and Montenegro; ²Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia and Montenegro (formerly Yugoslavia); ³Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia and Montenegro (formerly Yugoslavia);

Paper Id: 48 [\[Abstract\]](#)

[MoltenPoster4] **ELECTROCHEMICAL SYNTHESIS OF CHROMIUM BORIDES IN HALIDE-OXIDE MELTS**

Hasbi. Kushkhov ¹ ; Marina. Ligidova ¹ ; Oksana. Ashinova ¹ ; Romina. Karatsukova ¹ ; ¹Kabardino-Balkarian State University, Nalchik, Russian Federation;

Paper Id: 52 [\[Abstract\]](#)

[MoltenPoster5] **Peculiarities of Electro-reduction of Lithium Carbonate in Chloride-carbonate Melts**

Sergei. Kuleshov ¹ ; Inessa. Novoselova ² ; Valeriy. Bykov ³ ; ¹Institute of General and Inorganic Chemistry, Kiev, Ukraine; ²Institute of General and Inorganic Chemistry, Kyiv, Ukraine; ³Institute of Physics, Kiev, Ukraine;

Paper Id: 96 [\[Abstract\]](#)

[MoltenPoster6] **Electrical conductivity of molten (LiCl-KCl)eut. - CsCl mixtures**

Alexander. Salyulev ¹ ; Alexei. Potapov ¹ ; ¹Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;

Paper Id: 99 [\[Abstract\]](#)

[MoltenPoster7] **Estimation of molten salts density in a wide temperature range**

Alexei. Potapov ¹ ; Alexander. Salyulev ¹ ; ¹Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;

Paper Id: 98 [\[Abstract\]](#)

[MoltenPoster8] **Investigation of lithium chloride distillation from the UO₂ metallization products**

Alexander. Salyulev ¹ ; Alexei. Potapov ¹ ; Alexei. Shishkin ¹ ; Vladimir. Shishkin ¹ ; Yurii. Zaikov ¹ ; ¹Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;

Paper Id: 100 [\[Abstract\]](#)

[MoltenPoster9] **Stabilization of spent salts by an oxidation and distillation process: optimization of the oxidation step**

Benoit. Claux ¹ ; ⁰ ; ⁰ ; ¹CEA, Is sur Tille, France;

Paper Id: 129 [\[Abstract\]](#)

[MoltenPoster10] **Electrodeposition of Silicon Coatings in Chloride-Cryolite Melts**

Viktor. Malyshev ¹ ; Angelina. Gab ¹ ; Dmytro. Shakhnin ² ; Marcelle. Gaune Escard ³ ; ¹University "Ukraine", Kyiv, Ukraine; ²V.I. Vernadsky Institute of General and Inorganic Chemistry of the National Academy of Sciences of Ukraine, Kyiv, Ukraine; ³Aix-Marseille Universite/Polytech, CNRS/IUSTI UMR7343, Marseille, France;

Paper Id: 461 [\[Abstract\]](#)

SESSION:Ferro-
alloysPoster

**Flink International Symposium on Sustainable Production
of Ferro-alloys (6th Intl. Symp. on Sustainable Production
of Ferro-alloys)**

Room: Foyer

Poster Session

23-27 Oct, 2019

[Ferro-alloysPoster1] **Environmental Impacts of the Tailing Impoundment of Iron-ore Mine Nižna Slana (Slovakia)**

Danica. Fazekašová ¹ ; Juraj. Fazekaš ¹ ; ¹University of Presov, Prešov, Slovakia;
Paper Id: 232 [\[Abstract\]](#)

SESSION:RecyclingPoster

**Kozlov International Symposium on Sustainable
Materials Recycling Processes and Products (7th
Intl. Symp. on Sustainable Materials Recycling
Processes and Products)**

Room: Foyer

Poster Session

23-27 Oct, 2019

[RecyclingPoster1] **Study of the Capabilities of the Efficient Arsenic Removal from the Lead Dust**

Igor. Startsev ¹ ; Vera. Reznichenko ¹ ; Viktor. Shumskiy ¹ ; ¹VNIItsvetmet, Ust-Kamenogorsk, Kazakhstan;
Paper Id: 41 [\[Abstract\]](#)

[RecyclingPoster2] **Model Analysis of the Methods to Decrease Energy Consumption and CO₂ Emissions during Fuming- and Waelz-Processes Performed for Zinc-Bearing Middlings**

Viktor. Shumskiy ¹ ; Natalya. Kulenova ² ; ¹VNIItsvetmet, Ust-Kamenogorsk, Kazakhstan; ²East Kazakhstan state technical university, Ust-Kamenogorsk, Kazakhstan;
Paper Id: 42 [\[Abstract\]](#)

[RecyclingPoster3] **Copper Smelter Dust Is a Promising Material for the Recovery of Nonferrous Metals by the Waelz Process**

Dyubananov Valeriy. Grigorievich ¹ ; Pavel. Kozlov ² ; ¹Baykov Metallurgy & Materials Institute, Moscow, Russian Federation; ²UMMC-Holding, Moscow, Russian Federation;
Paper Id: 135 [\[Abstract\]](#)

[RecyclingPoster4] **Skull Formation in Fluid-Bed Furnaces during Fine Sulphide Zinc Concentrates' Calcination**

Pavel. Kozlov ¹ ; Vladimir. Terentev ² ; ¹UMMC-Holding, Moscow, Russian Federation; ²Chelyabinsk Zinc Plant, Chelyabinsk, Russian Federation;
Paper Id: 136 [\[Abstract\]](#)

[RecyclingPoster5] Skull Formation in Rotary Kilns During Processing of Various Types of Oxidized Raw Materials

Pavel. Kozlov ¹ ; ¹UMMC-Holding, Moscow, Russian Federation;

Paper Id: 138 [\[Abstract\]](#)

[RecyclingPoster6] Mastering of Technology of Waelz-Oxide Calcination in Rotary Furnace

A.. Panshin ¹ ; Sergey. Yakornov ² ; Pavel. Kozlov ³ ; ¹LLC "UMMC-Holding", Verkhnyaya Pyshma, Russian Federation; ²LLC "UMMC-Holding", Verkhnyaya Pyshma, Russian Federation; ³UMMC-Holding, Moscow, Russian Federation;

Paper Id: 139 [\[Abstract\]](#)

[RecyclingPoster7] Improvement of Processes of Indium Extraction from Zinc Production Sulphate Solutions Using Mixing-Setting Extraction Equipment

Oleg. Belyakov ¹ ; A.. Panshin ² ; Pavel. Kozlov ³ ; ¹Chelyabinsk Zinc Plant, Chelyabinsk, Russian Federation; ²LLC "UMMC-Holding", Verkhnyaya Pyshma, Russian Federation; ³UMMC-Holding, Moscow, Russian Federation;

Paper Id: 140 [\[Abstract\]](#)

[RecyclingPoster8] Research and Development of Hydrometallurgical Processing Stage in Copper Industry Wastes' Recycling Technology with Tin Recovery into Tin Concentrate

Viktor. Shumskiy ¹ ; Pavel. Kozlov ² ; A.. Panshin ³ ; Dmitriy. Ivakin ⁴ ; ¹VNIItsvetmet, Ust-Kamenogorsk, Kazakhstan; ²UMMC-Holding, Moscow, Russian Federation; ³LLC "UMMC-Holding", Verkhnyaya Pyshma, Russian Federation; ⁴Chelyabinsk Zinc Plant, Chelyabinsk, Russian Federation;

Paper Id: 141 [\[Abstract\]](#)

[RecyclingPoster9] Development and testing of industrial technology of lead cake carbonization

Elena. Golubeva ¹ ; Pavel. Kozlov ² ; Sergey. Yakornov ³ ; ¹Chelyabinsk Zinc Plant, Chelyabinsk, Russian Federation; ²UMMC-Holding, Moscow, Russian Federation; ³LLC "UMMC-Holding", Verkhnyaya Pyshma, Russian Federation;

Paper Id: 143 [\[Abstract\]](#)

[RecyclingPoster10] Technology of Waste Water Purification with Extraction of Valuable Components and Implementation of Closed-Loop Water Circulation System

Oxana. Fatkhutdinova ¹ ; A.. Panshin ² ; Pavel. Kozlov ³ ; ¹Chelyabinsk Zinc Plant, Chelyabinsk, Russian Federation; ²LLC "UMMC-Holding", Verkhnyaya Pyshma, Russian Federation; ³UMMC-Holding, Moscow, Russian Federation;

Paper Id: 145 [\[Abstract\]](#)

[RecyclingPoster11] **Electrolytic Lead Obtaining from Secondary Materials**
Pavel. Arkhipov ¹ ; Yuriy. Zaikov ² ; Yuliya. Khalimullina ² ; Anna. Kholkina ³ ; Alexei. Potapov ⁴ ; ¹Institute of high temperature electrochemistry of the Ural branch of the Russian academy of sciences, Ekaterinburg, Russian Federation; ²Institute of High Temperature Electrochemistry of the Ural branch of the Russian Academy of Sciences, Ekaterinburg, Russian Federation; ³Institute of High-Temperature Electrochemistry, Russian Academy of Sciences, Ural Division, Ekaterinburg, Russian Federation; ⁴Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;
Paper Id: 320 [\[Abstract\]](#)

[RecyclingPoster12] **Sulfobacillus Thermo Sulfidooxidans Electron Uptake from Cu-Fe Based p Electron Surface-Donors Probed by Raman and FTIR Spectroscopies**
Marios. Papageorgiou ¹ ; Charalampos. Tselios ² ; Constantinos. Varotsis ³ ; ¹Cyprus University of Technology, Nicosia, Cyprus; ²Cyprus University of technology, Limassol, Cyprus; ³Cyprus university of technology, limassol, Cyprus;
Paper Id: 236 [\[Abstract\]](#)

SESSION:LawsPoster	McNeil International Symposium on Laws and their Applications for Sustainable Development
	Room: Foyer
Poster Session	23-27 Oct, 2019

[LawsPoster1] **When the unforeseeable should have been predicted: Known unknowns and unknown unknowns in commerce**
Robert. Hunter ¹ ; ¹City Disabilities, London, United Kingdom;
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Shufu. Yao ¹ ; Weijian. Yu ² ; Jiang. Zhang ² ; ¹, XiangTan, China; ²Hunan University of Science and Technology, Xiangtan, China;
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SESSION:ChemistryPoster
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[ChemistryPoster1] **High-power and high-energy Cu-substituted $\text{Li}_x\text{Ni}_{0.88-}\text{yCo}_y\text{Mn}_{0.1}\text{Cu}_{0.02}\text{O}_2$ cathode material for Li-ion batterie**

Anna. Milewska¹; Janina. Molenda²; Michal. Rybski¹; Li. Lu³; Janusz. Tobola¹; ¹AGH University of Science and Technology, Kraków, Poland; ²AGH University of Science and Technology, Kraków, Kraków, Poland; ³National University of Singapore, Singapore, Singapore;
Paper Id: 380 [\[Abstract\]](#)

SESSION:AdvancedMaterialsPoster
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Materials and Technologies for Energy,
Environment and Sustainable Development
Room: Foyer
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[AdvancedMaterialsPoster1] **Comparison of Electrodialysis Operational Modes to Remove Coexisting Ions from a Phosphate Containing Solution at Overlimiting Conditions**

Eduardo Henrique. Rotta¹; Luciano. Marder¹; Marco Antonio. Siqueira Rodrigues²; Andrea. Moura Bernardes¹; ¹UFRGS, Porto Alegre, Brazil; ²FEEVALE, Porto Alegre, Brazil;
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[AdvancedMaterialsPoster2] **Use of Cellulosic Fibres from Wood Pulp and Waste Paper for Sustainable Cement Based Mortars**

Nadezda. Stevulova¹; Viola. Hospodarova¹; Vojtech. Vaclavik²; Tomas. Dvorsky²; ¹Technical University of Kosice, Kosice, Slovakia; ²VSB-Technical University in Ostrava, 708 00 Ostrava-Poruba, Czech Republic;
Paper Id: 81 [\[Abstract\]](#)

[AdvancedMaterialsPoster3] **Development of New Multicolor-Exciplex Emitters Utilizing Diphenylsulfone/Ditolylsulfone and Phenothiazine/Phenoxathiine/Xanthene Moieties for White Electroluminescent Devices**

Dmytro. Volyniuk¹; Xiaofeng. Tan¹; Jurate. Simokaitiene¹; Audrius. Buciskas¹; Tomas. Matulaitis¹; Egle. Jatautiene¹; Khrystyna. Ivaniuk²; Igor. Helzhynskyy²; Pavlo. Stakhira²; Juozas Vidas. Grazulevicius¹; ¹Kaunas University of Technology, Kaunas, Lithuania; ²Lviv Polytechnic National University, Lviv, Ukraine;
Paper Id: 88 [\[Abstract\]](#)

[AdvancedMaterialsPoster4] **Sustainable Synthesis of Bristle-Glass-Shaped Copper Particles and Successive Silver Plating Process**

Jong-hyun. Lee ¹; Eun Byeol. Choi ¹; ¹Seoul National University of Science and Technology, Seoul, South Korea;

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[AdvancedMaterialsPoster5] **Corrosion Behaviour of the Cement Composites with the Incorporated Waste Materials**

Adriana. Estokova ¹; Michaela. Smolakova ²; Alena. Luptakova ³; ¹Technical University of Kosice, Faculty of Civil Engineering, Institute of Environmental Engineering, Kosice, Slovakia; ²Technical University of Kosice, Kosice, Slovakia; ³Slovak Academy of Sciences, Kosice, Slovakia;

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Charalampos. Tselios ¹; Constantinos. Varotsis ²; ¹Cyprus University of technology, Limassol, Cyprus; ²Cyprus university of technology, limassol, Cyprus;

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[AdvancedMaterialsPoster7] **Magnesium-Based Hydride for Hydrogen Storage Improved by the Methods of Alloying, Nano-Sizing, Catalyzing and Compositing Prepared by Hydriding Combustion Synthesis plus Mechanical Milling**

Liquan. Li ¹; Yunfeng. Zhu ¹; ¹Nanjing Tech University, Nanjing, China;

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Anka. Trajkovska Petkoska ¹; Anna Maria. Petkoska ²; Andrea. Leng ³; Anita. Trajkovska Broach ⁴; ¹Assoc. Prof., Veles, Macedonia (Former Yugoslav Republic of Macedonia); ²Yahya Kemal High School, Skopje, R. North Macedonia, Skopje, Macedonia; ³Blacksburg High School, Blacksburg, United States; ⁴Scientist/Consultant, CSI: Create. Solve. Innovate. LLC, Blacksburg, United States;

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[AdvancedMaterialsPoster9] **Protecting Flexible Polypyrrole Electrodes from the Detrimental Effects of Airborne Ammonia Molecules**

Azin. Jafari ¹; Amir. Amini ²; Faramarz. Hossein Babaei ³; ¹Department of Electrical Engineering, College of Technical and Engineering, West Tehran Branch, Islamic Azad University, Tehran, Iran, Teharan, Iran; ²Department of Electrical Engineering, College of Technical and Engineering, West Tehran Branch, Islamic Azad University, Tehran, Iran, Tehran, Iran; ³Electronic Materials Laboratory, Electrical Engineering Department, K. N. Toosi University of Technology, Tehran 16315-1355, Iran, tehran, Iran;

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[AdvancedMaterialsPoster10] **Peculiarities of internal friction and shear modulus in 60Co gamma-rays irradiated monocrystalline SiGe alloys**

Ia. Kurashvili ¹ ; Giorgi. Darsavelidze ¹ ; Iasha. Tabatadze ² ; Giorgi. Chubinidze ² ; Tornike. Kimeridze ² ; ¹, Tbilisi, Georgia; ²Ilia Vekua Sukhumi Institute of Physics and Technology, Tbilisi, Georgia;

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[AdvancedMaterialsPoster11] **Sustainable development in the production of healthy vegetable snacks preserved by freeze-drying**

Agnieszka. Ciużyńska ¹ ; Monika. Janowicz ² ; Weronika. Marczak ² ; ¹Warsaw University of Life Sciences - SGGW, Warsaw, Poland; ²Warsaw University of Life Sciences, Warsaw, Poland;

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[AdvancedMaterialsPoster12] **Development of a technology for the production of vegetable bars based on hydrocolloid gels obtained from frozen vegetables in the aspect of sustainable development**

Monika. Janowicz ¹ ; Agnieszka. Ciużyńska ² ; Andrzej. Lenart ² ; ¹Warsaw University of Life Sciences, Warsaw, Poland; ²Warsaw University of Life Sciences - SGGW, Warsaw, Poland;

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Teng. Zhao ¹ ; Vasant. Kumar ² ; ¹Beijing Institute of Technology, Beijing, China; ²University of Cambridge, Cambridge, United Kingdom;

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[BatteryPoster2] **Structural evolution of solid-state Li₂O₂ with reduced charge overpotential in Li-O₂ batteries**

Guoqiang. Tan ¹ ; ¹Beijing Institute of Technology, Beijing, China;

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[BatteryPoster3] **Recycling of discarded lithium ion batteries for recovery of cobalt and manganese values**

Nikhil. Dhawan ¹ ; ¹IIT-Roorkee, Roorkee, India;

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Kosuke. Miyoshi ¹ ; Kyohei. Hayakawa ¹ ; Koji. Hagihara ¹ ; ¹Osaka university, Suita,
Japan;
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Mihaela. Filipescu ¹ ; Alexandra. Palla Papavlu ² ; Anca. Bonciu ² ; Maria. Dinescu ¹ ;
¹National Institute for Lasers, Plasma and Radiation Physics, Magurele, Romania;
²National Institute for Lasers, Plasma and Radiation Physics, MAGURELE, Romania;
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SESSION:MathematicsPoster **4th Intl. Symp. on Sustainable Mathematics
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[MathematicsPoster1] **Multiscale Discrete Models for Corrosion and Fatigue in
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Ramana. Pidaparti ¹ ; ¹University of Georgia, Athens, United States;
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[NanomaterialsPoster1] HIGH TEMPERATURE ELECTROCHEMICAL SYNTHESIS OF CARBON NANOSTRUCTURES

Hasbi. Kushkhov ¹; Marina. Ligidova ¹; Romina. Karatsukova ¹; Zhabagi. Ali ¹; Astemir. Hotov ¹; ¹Kabardino-Balkarian State University, Nalchik, Russian Federation;
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[NanomaterialsPoster2] The Thermodynamic Analysis of Interaction of Carbon with ZrO₂ and B₂O₃

Jondo. Bagdavadze ¹; ⁰; Zurab. Tsikaridze ¹; ¹Ferdinand Tavadze Institute of Metallurgy and Materials Science, Tbilisi, Georgia;
Paper Id: 54 [\[Abstract\]](#)

[NanomaterialsPoster3] The Thermodynamic Analysis of the Interaction of Carbon with TiO₂, ZrO₂, B₂O₃ and Obtaining a Mixture of Boride and Carbides of Titanium and Zirconium

Jondo. Bagdavadze ¹; Ketevan. Ukleba ²; Zurab. Tsikaridze ¹; ¹Ferdinand Tavadze Institute of Metallurgy and Materials Science, Tbilisi, Georgia; ², Tbilisi, Georgia;
Paper Id: 193 [\[Abstract\]](#)

[NanomaterialsPoster4] Nanostructuring of the Metallic Matrix by the Disperse Phase (TiC) in the Composites for the Directed Regulation of Mechanical Properties

Elena. Zemtsova ¹; ¹Saint-Petersburg State University, Saint-Petersburg, Russian Federation;
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[NanomaterialsPoster5] Functional properties of BaTiO₃-based ceramics, thin films and nanostructures

Lucian. Pintilie ¹; Ioana. Pintilie ¹; ¹National Institute of Materials Physics, Magurele, Romania;
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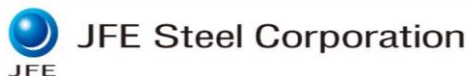
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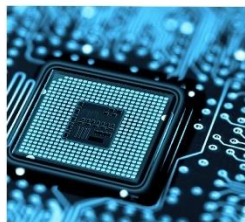
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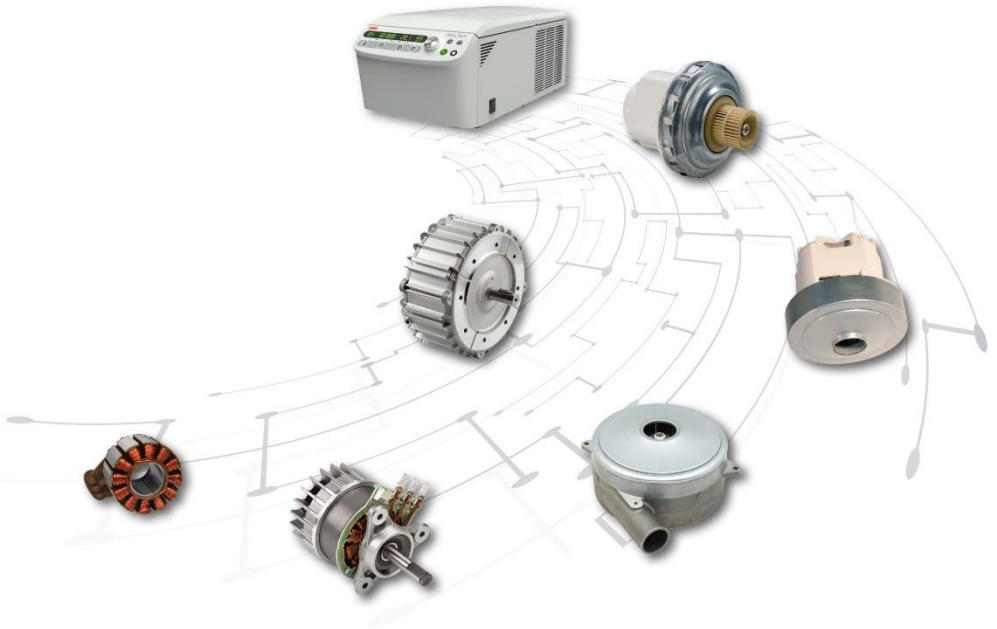
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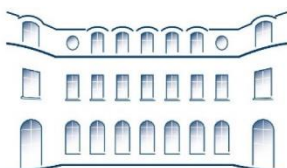


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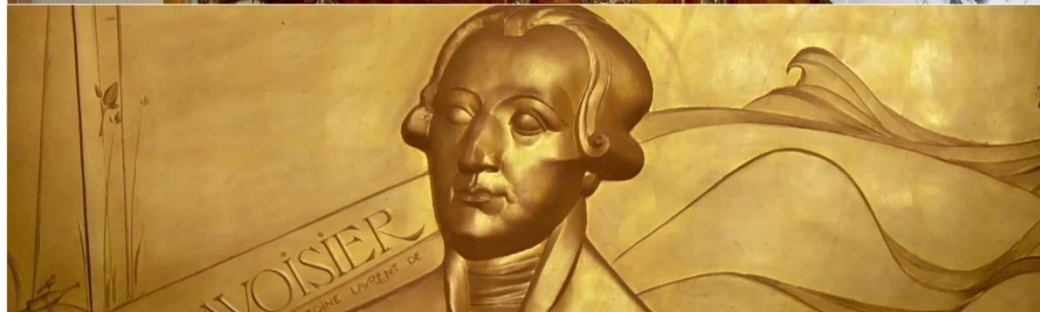
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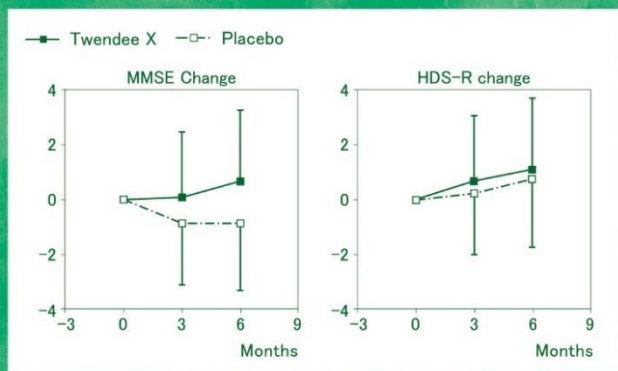
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