2018 - SUSTAINABLE INDUSTRIAL PROCESSING SUMMIT & EXHIBITION

4 - 7 Nov. 2018, Rio Othon Palace, Rio De Janeiro, Brazil

AFONSO
INTERNATIONAL SYMPOSIUM
on Advanced Sustainable Iron and Steel Making

AMATORE
INTERNATIONAL SYMPOSIUM
on Electrochemistry for Sustainable Development

FEHRMANN
INTERNATIONAL SYMPOSIUM
on Sustainable Molten Salt and Ionic Liquid Processing

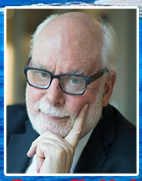
MAMALIS
INTERNATIONAL SYMPOSIUM
on Advanced Manufacturing of Advanced Materials & Structures

ZEHETBAUER
INTERNATIONAL SYMPOSIUM
ion Surfaces and Interfaces of Sustainable, Advanced Materials

PROGRAM

Featuring 7 Nobel Laureates:

Dan Shechtman
2011 Nobel Prize
Winner



Fraser Stoddart
2016 Nobel Prize
Winner

Andre Geim
2010 Nobel Prize
Winner

Thomas Steitz
2009 Nobel Prize
Winner

Ada Yonath
2009 Nobel Prize
Winner

Kurt Wüthrich
2002 Nobel Prize
Winner

Ferid Murad
1998 Nobel Prize
Winner

Special Address:
Donna J. Nelson
2016 President
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COLLEGE OF ENGINEERING
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Summit WebSite: www.flogen.org/sips2018 **Contact:** Dr Florian Kongoli(fkongoli@flogen.org)
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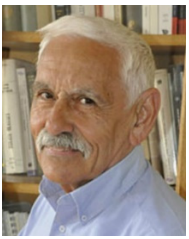
Leading Committee

Florian Kongoli, Chair
FLOGEN Technologies Inc.
Canada / USA

Symposia Committees

Florian Kongoli
FLOGEN Technologies
Canada

Ferid Murad
1998 Nobel Prize Winner
USA



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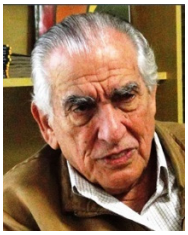

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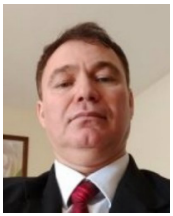

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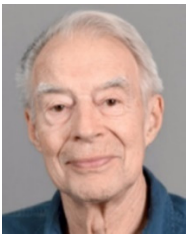

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Dimitris C. Lagoudas
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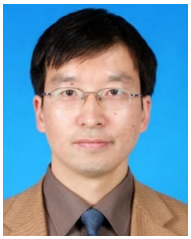
Tetiana Prikhna
Inst. Superhard Materials, Ukraine



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CareGo Holdings
Canada

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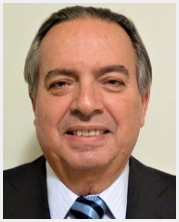
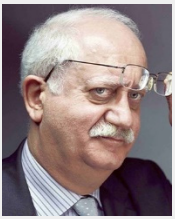
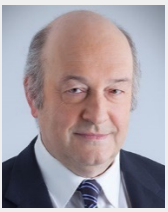
Welcome Message


Ing. Paulo **Afonso**, B.Sc


Prof. Christian **Amatore**


Prof. Rasmus **Fehrmann**


Prof. Athanasios **Mamalis**


Prof. Michael **Zehetbauer**

Welcome to the 2018 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 2018 STARS of sustainable science, technology, and innovation. In alphabetical order, they are:

- Ing. Paulo **Afonso** Gomes, B.Sc. - 2018 honoree with **Afonso International Symposium** on Advanced Sustainable Iron and Steel Making
- Prof. Christian **Amatore** - 2018 honoree with **Amatore International Symposium** on Electrochemistry for Sustainable Development
- Prof. Rasmus **Fehrmann** - 2018 honoree with **Fehrmann International Symposium** on Sustainable Molten Salt and Ionic Liquid Processing
- Prof. Athanasios **Mamalis** - 2018 honoree with **Mamalis International Symposium** on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications
- Prof. Michael **Zehetbauer** - 2018 honoree with **Zehetbauer International Symposium** on Science of Intelligent and Sustainable Advanced Materials (SISAM)

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 7 Nobel Prize winners:

FLOGEN
STAR OUTREACH

Inspiring events with
Prof. Tom Steitz

From the Structure and Function of the Ribosome to New Antibiotics

4-7 Nov 2018, Rio Othon Palace, Rio De Janeiro, Brazil

FLOGEN
STAR OUTREACH

Inspiring events with
Prof. Ada Yonath

Novel microbiome preserving and eco-friendly antibiotics

4-7 Nov 2018, Rio Othon Palace, Rio De Janeiro, Brazil

FLOGEN
STAR OUTREACH

Inspiring events with
Prof. Kurt Wüthrich

How the Physics Principle of Nuclear Magnetic Resonance Improves the Quality of Daily Human Life

4-7 Nov 2018, Rio Othon Palace, Rio De Janeiro, Brazil

FLOGEN
STAR OUTREACH

Inspiring events with
Prof. Ferid Murad

How a harmful inorganic air pollutant turned out beneficial for human biology & health

4-7 Nov 2018, Rio Othon Palace, Rio De Janeiro, Brazil

Dr. Florian Kongoli
Summit Chairman and Organizer
Chairman FLOGEN Stars Outreach
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Calendar of Events

SUN	13:00-18:00	SUMMIT REGISTRATION								
	19:00-23:00	WELCOME: INFORMAL DINNER & ENTERTAINMENT - BEACHFRONT								
		Room1	Room2	Room3	Room4	Room5	Room6	Room7	Room8	Room9
		Mar Azul	Copacabana B	Bossa	Sao Conrado	Copacabana A	Guaratiba	Pontal	Grego	Asian
MON	8:15-10:30	SUMMIT PLENARY - Ballroom								
	10:30-11:20	COFFEE BREAK/POSTERS/EXHIBITION - Foyer								
	11:20-13:00	AFONSO 1	AMATORE 1	FEHRMANN 1	MAMALIS 1	ZEHETBAUER 1	MARQUIS 1	NON-FERROUS 1	NANO/COMPOSITE/COATINGS 1	BATTERY 1
	13:00-14:00	LUNCH/POSTERS/EXHIBITION								
	14:00-15:40	AFONSO 2	AMATORE 2	FEHRMANN 2	MAMALIS 2	ZEHETBAUER 2	MARQUIS 2	NON-FERROUS 2	NANO/COMPOSITE/COATINGS 2	BATTERY 2
	15:40-15:55	COFFEE BREAK/POSTERS/EXHIBITION - Foyer								
	15:55-17:10	AFONSO 3	AMATORE 3	FEHRMANN 3	MAMALIS 3	ZEHETBAUER 3	MARQUIS 3	NON-FERROUS 3	NANO/COMPOSITE/COATINGS 3	BATTERY 3
	17:35-17:40	BREAK								
	17:40-18:30	AFONSO 4	ROUND TABLE	ROUND TABLE	MAMALIS 4	ZEHETBAUER 4	MARQUIS 4	NON-FERROUS 4	ROUND TABLE	BATTERY 4
	19:30-23:00	BUFFET DINNER/SHOW - Copacabana A+B								
TUE	8:15-10:30	SUMMIT PLENARY - Ballroom								
	10:30-11:20	COFFEE BREAK/POSTERS/EXHIBITION - Foyer								
	11:20-13:00	AFONSO 4	AMATORE 4	FEHRMANN 4	MAMALIS 5	ZEHETBAUER 5	MARQUIS 5	NON-FERROUS 5	NANO/COMPOSITE/COATINGS 4	ROUND TABLE
	13:00-14:00	LUNCH/POSTERS/EXHIBITION								
	14:00-15:40	AFONSO 5	AMATORE 5	FEHRMANN 5	MAMALIS 6	ZEHETBAUER 6	MARQUIS 6	NON-FERROUS 6	ROUND TABLE	ENERGY 1
	15:40-15:55	COFFEE BREAK/POSTERS/EXHIBITION - Foyer								
	15:55-17:10	ROUND TABLE	AMATORE 6	FEHRMANN 6	MAMALIS 7	ZEHETBAUER 7	MARQUIS 7	ROUND TABLE	MATHEMATICS	ENERGY 2
	17:35-17:40	BREAK								
	17:40-18:30	MAMALIS 12	ROUND TABLE	ROUND TABLE	MAMALIS 8	ROUND TABLE	MARQUIS 8	ROUND TABLE	ROUND TABLE	ROUND TABLE
	19:30-23:00	COCKTAIL/GALA DINNER/AWARDS CEREMONY/SHOW - Copacabana A+B								
WED	8:15-10:30	SUMMIT PLENARY - Ballroom								
	10:30-11:20	COFFEE BREAK/POSTERS/EXHIBITION - Foyer								
	11:20-13:00	MAMALIS 13	AMATORE 7	FEHRMANN 7	MAMALIS 9	ZEHETBAUER 8	MARQUIS 9	ENVIRONMENTAL 1	MARQUIS 12	ENERGY 3
	13:00-14:00	LUNCH/POSTERS/EXHIBITION								
	14:00-15:40	MAMALIS 14	AMATORE 8	MAMALIS 16	MAMALIS 10	ZEHETBAUER 9	MARQUIS 10	ENVIRONMENTAL 2	MARQUIS 13	ENERGY 4
	15:40-15:55	COFFEE BREAK/POSTERS/EXHIBITION - Foyer								
	15:55-17:10	MAMALIS 15	ROUND TABLE	ROUND TABLE	MAMALIS 11	ZEHETBAUER 10	MARQUIS 11	ENVIRONMENTAL 3	MARQUIS 14	ROUND TABLE
	17:35-17:40	BREAK								
	17:40-18:30	ROUND TABLE	ROUND TABLE	ROUND TABLE	ROUND TABLE	ZEHETBAUER 11	ROUND TABLE	ROUND TABLE	MARQUIS 15	ROUND TABLE
	19:30-23:00	SOCIAL ACTIVITIES (TBA)								

Monday Schedule

SYMPOSIA		AFONSO Iron	AMATORE Electrochemistry	FEHRMANN Molten	MAMALIS Manufacturing	ZEHETBAUER SISAM	Advanced Materials	Non-ferrous	Nano/Composite /Coatings	Battery
Room		Room 1 Mar Azul	Room 2 Copacabana B	Room 3 Bossa	Room 4 Sao Conrado	Room 5 Copacabana A	Room 6 Guaratiba	Room 7 Pontal	Room 8 Grego	Room 9 Asian
MON Nov 5th	8:15	SUMMIT PLENARY - Copacabana A + B								
	10:30	BREAK/Poster Session								
	11:20	370 P. Afonso Gomes	277 Z. Tian	56 R. Fehrmann	423 A. Mamalis	228 R. Valiev	52 W. Urland	334 M. de Campos	107 P. Rokicki	426 A. Fox
	11:45	376 F. Varela Cançado	256 K. Daasbjerg	58 R. Rogers	95 J. Ramsden	233 T. Langdon	59 N. Chikhradze	359 G. Hanke	336 M. de Campos	389 K. Chung
	12:10	387 R. Valladares	63 O. Scialdone	403 M. Banares	94 J. Ramsden	270 W. Skrotzki	19 S. Lewis	365 M. Gutierrez-Ruiz	337 M. de Campos	97 C. Capiglia
	12:35	417 P. Afonso Gomes	187 E. Mousset	222 C. Gaillard	280 M. Maragakis	324 H. Kim	339 S. Lewis	65 Z. Wang	338 M. de Campos	371 J. Chun
	13:00	LUNCH								
	14:00	134 M. Gomez-Marroquin	219 M. Boutelle	390 T. Welton	111 T. Sawada	291 Y. Zhu	74 M. Zharnikov	208 V. Tsymbal	168 R. Singh	385 D. Menezes Santos
	14:25	401 C. Takano	230 W. Huang	305 P. Hunt	124 M. Guden	302 B. Straumal	75 M. Zharnikov	386 M. Rizaj	89 F. Aramide	384 H. Lim
	14:50	114 T. Usui	98 A. Oleinick	180 S. Khokarale	123 M. Guden	132 F. Spieckermann	22 J. Molenda	378 J. Ahn	227 G. Patonay	283 J. Zheng
	15:15	110 Y. Kato	88 X. Xia	287 S. Dai	216 T. Cagin	345 T. Lowe	212 N. Chikhradze	406 P. Kozlov	290 U. Schwingenschlogl	382 V. Kumar
	15:40	BREAK/Poster Session								
	15:55	358 J. Antrekowitsch	69 H. Chen	289 P. Wasserscheid	294 E. Hristoforou	271 Z. Horita	27 J. Newkirk	60 S. Imeri	292 G. Perillo	323 T. Yamada
	16:20	375 G. Dorofeev	103 H. Ju	31 M. Koel	261 S. Commuri	391 M. Wilde	122 T. Prikhna	326 M. Koochaki	26 E. Odhong	392 V. Selvaraj
	16:45	397 N. Lacerda	207 X. Wang	130 S. Mossin	295 E. Hristoforou	293 C. Borchers	108 A. Girlando	236 A. Ivanič	278 C. Chan	203 T. Djenizian
	17:10	335 J. de Castro	267 L. Tatsuo Kubota	259 E. Maresova	268 S. Puchlerska	299 G. Krexner	327 J. Parker	15 H. Hamaizi	276 L. Kalandadze	322 K. Teshima
	17:35	BREAK/Poster Session								
	17:40	135 E. Tinoco Falero	Round Table	Round Table	170 A. Mamalis	312 Y. Chen	200 K. Wierzbanowski	238 C. Sanchez Roboredo	Round Table	425 K. Aifantis
	18:05	Round Table	Round Table	Round Table	158 J. Kundrák	Round Table	213 A. Baczmanski	116 E. Wong	Round Table	82 J. Wang
	19:30	FULL BUFFET DINNER/SAMBA DANCING SHOW - Copacabana A+B								

Tuesday Schedule

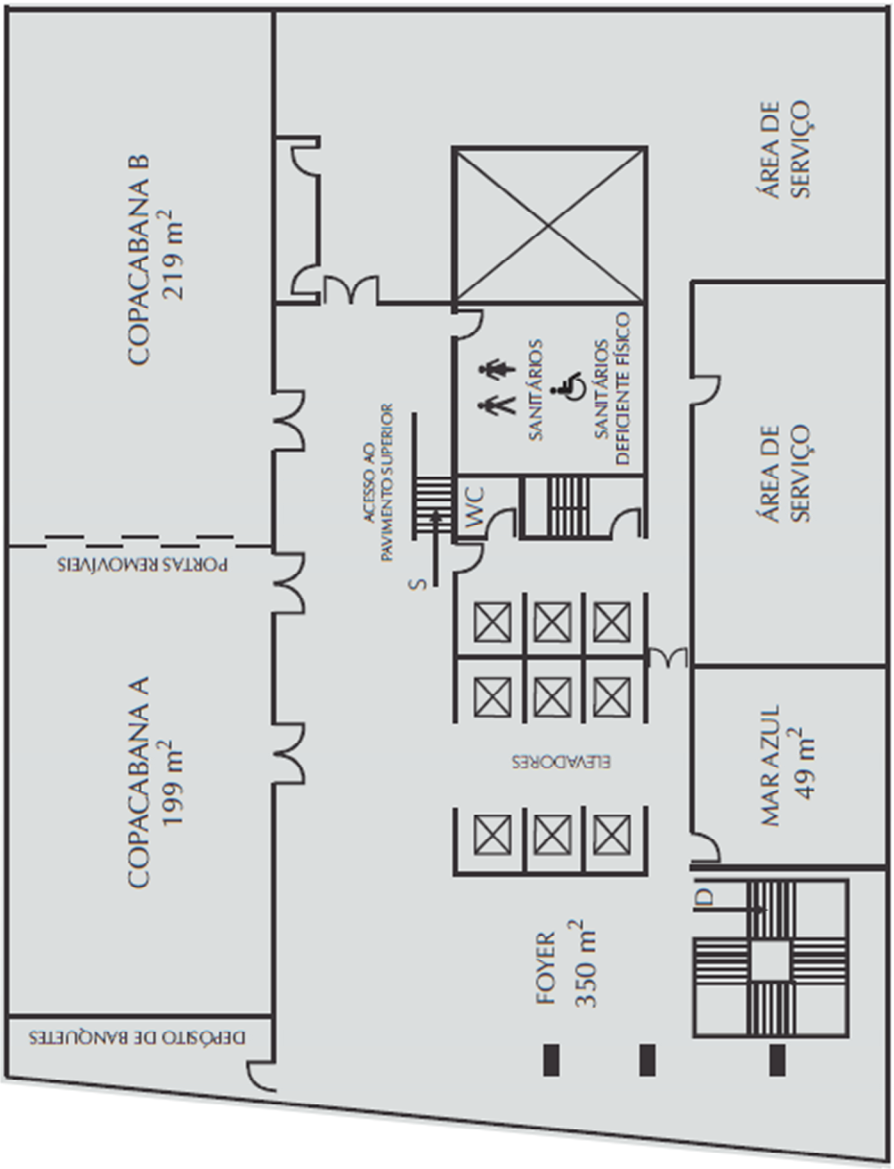
SYMPOSIA		AFONSO Iron	AMATORE Electrochemistry	FEHRMANN Molten	MAMALIS Manufacturing	ZEHETBAUER SISAM	Advanced Materials	Non-ferrous	Nano/Composite /Coatings Mathematics	Battery Energy
Room		Room 1 Mar Azul	Room 2 Copacabana B	Room 3 Bossa	Room 4 Sao Conrado	Room 5 Copacabana A	Room 6 Guaratiba	Room 7 Pontal	Room 8 Grego	Room 9 Asian
TUE Nov 6th	8:15	SUMMIT PLENARY - Copacabana A + B								
	10:30	BREAK/Poster Session								
	11:20	106 J. Dzugan	171 M. Tao	165 B. Bal'zhinimaev	145 D. Lagoudas	311 O. Renk	10 R. Semiat	127 Z. Fang	284 J. Dupin	157 G. Ali
	11:45	118 J. Rauch	405 A. Kumatani	364 A. Henni	57 M. Demir	239 M. Lewandowska	14 A. Yarin	128 V. Kryukovskiy	17 F. Aziz	429 R. Liu
	12:10	71 D. Lee	220 R. Webster	245 A. Riisager	151 A. Mamalis	353 M. Krystian	125 T. Prikhna	347 C. Da Qiang	91 K. Phapale	Round Table
	12:35	54 B. Wittgens	100 T. Hoshino	120 V. Lutsyk	66 V. Kirko	309 B. Straumal	209 L. Mai	84 S. Kvyatkovskiy	147 S. Thakare	Round Table
	13:00	LUNCH								
	14:00	172 H. Upadhyay	73 J. Xu	72 L. Schill	201 J. Lucas	154 A. Greer	300 B. Szpunar	330 P. Slatter	221 E. Ozensoy	163 H. Dodds
	14:25	173 H. Upadhyay	252 G. Xu	352 K. Schröder (Bica)	205 M. Saber Zaeimian	204 J. Eckert	333 J. Bernholc	115 F. Souza	242 P. Kumar	112 M. Mauntz
	14:50	288 S. Nath	152 B. Ren	325 E. Olsen	185 J. Jehl	143 J. Dubois	282 G. Pellicane	332 N. Dhawan	Round Table	366 J. Szpunar
	15:15	369 C. Srishilan	229 X. Wang	319 J. de Castro	174 S. Sheykin	362 M. Baró	248 Y. Gerstenmaier	166 M. Bhatti	Round Table	78 A. Bhalekar
	15:40	BREAK/Poster Session								
	15:55	Round Table	399 H. Inufasa	398 A. Mudring	7 K. Hokamoto	377 H. Lischka	357 A. Tressaud	351 R. Kumar	217 P. Rowlands	314 L. Diels
	16:20	Round Table	383 L. Thouin	6 A. Foelske-Schmitz	159 P. Chen	379 A. Aquino	11 R. Semiat	Round Table	191 C. Udriste	146 M. Tao
	16:45	Round Table	355 K. Jalda	232 N. Vucetic	68 R. Tomoshige	308 L. Toth	161 E. Eliav	Round Table	175 V. Ryabov	237 A. Kosider
	17:10	Round Table	62 O. Scialdone	96 V. Lutsyk	86 A. Szalay	246 C. Lekka	393 R. Tomov	Round Table	354 F. Mohammad	367 J. Ahn
	17:35	BREAK/Poster Session								
	17:40	419 V. Kovalov	Round Table	Round Table	144 N. Chikhradze	298 T. Turna	422 F. Marquis	Round Table	Round Table	Round Table
	18:05	418 V. Kovalov	Round Table	Round Table	113 M. Sarikaya	Round Table	421 P. Chen	Round Table	Round Table	Round Table
	19:30	GALA DINNER/AWARDS CEREMONY/DANCING AND MUSIC SHOW - Copacabana A&B								

Wednesday Schedule

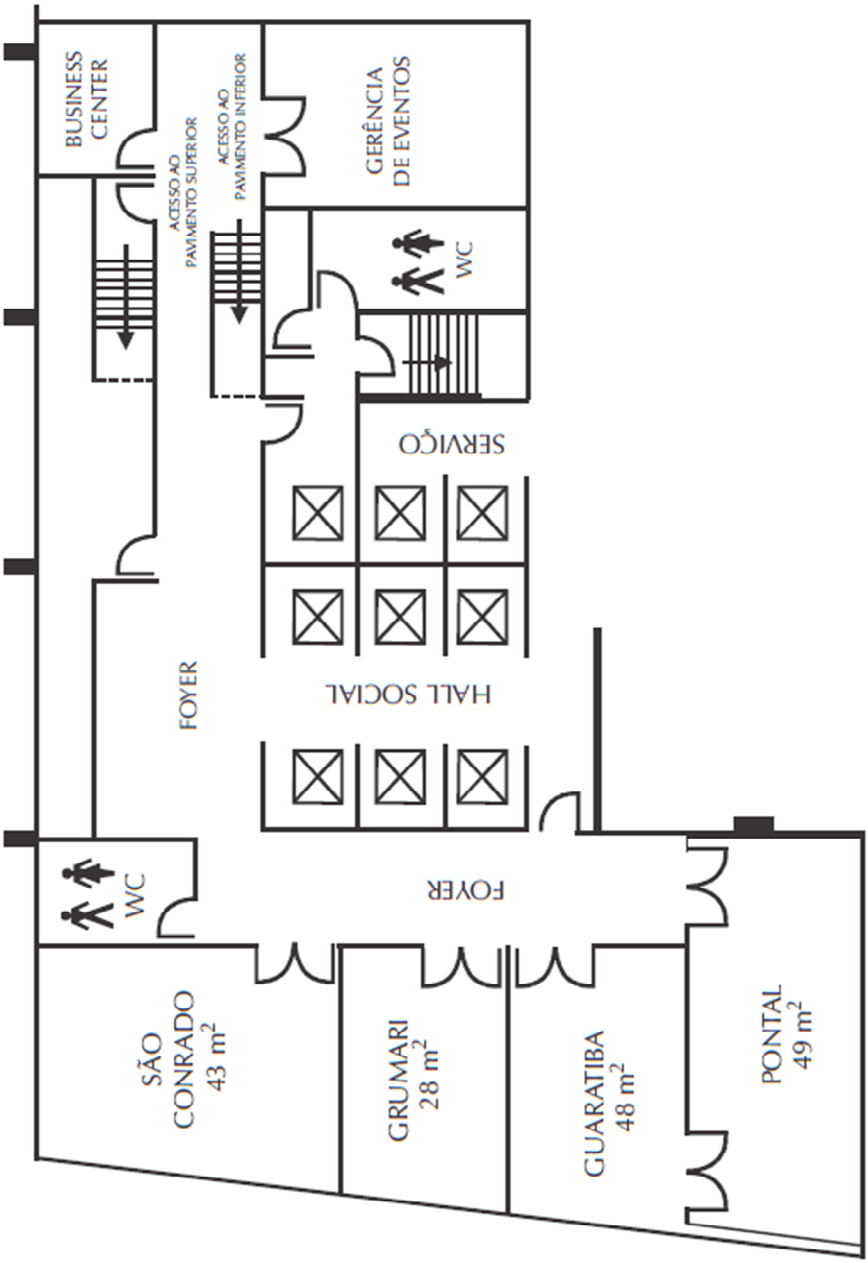
SYMPOSIA		AFONSO Iron	AMATORE Electrochemistry	FEHRMANN Molten	MAMALIS Manufacturing	ZEHETBAUER SISAM	Advanced Materials	Environmental	Advanced Materials	Energy
Room		Room 1 Mar Azul	Room 2 Copacabana B	Room 3 Bossa	Room 4 Sao Conrado	Room 5 Copacabana A	Room 6 Guaratiba	Room 7 Pontal	Room 8 Grego	Room 9 Asian
WED Nov 7th	8:15	SUMMIT PLENARY - Copacabana A + B								
	10:30	BREAK/Poster Session								
	11:20	33 I. Balagansky	160 D. Zhan	137 M. Nielsen	149 C. Chirwa	193 T. Ungar	8 P. Hsieh	395 P. Prates Valério	169 I. Marcu	210 T. Munonde
	11:45	85 A. Baghiyan	410 J. Wadhawan	304 C. Schröder	218 E. Gevorkyan	241 E. Schafler	285 U. Schwingenschlog	402 M. Naccache	176 D. Lepadatu	148 P. Gao
	12:10	331 A. Zhukov	195 A. Survila	Round Table	266 S. Commuri	211 J. Jehl	310 K. Krukiewicz	313 L. Diels	186 L. Judele	21 S. Stefanov
	12:35	177 S. Sidorenko	196 A. Survila	Round Table	296 E. Hristoforou	407 G. Khatibi	273 Y. Kato	303 K. Park	164 G. Ahluwalia	36 A. Esmaeili
	13:00	LUNCH								
	14:00	342 N. Jalagonia	81 Y. Pleskov	93 P. Kervalishvili	162 R. Turmanidze	189 P. Rogl	202 M. Nisnevitch	28 H. Chong	190 Y. Gupta	35 A. Esmaeili
	14:25	356 A. Paiva	316 M. Worsley	414 K. Kim	121 T. Prikhna	226 E. Bauer	50 A. Amarasekara	29 X. Hu	192 J. Moorthy	37 A. Esmaeili
	14:50	363 H. Oliveira	265 T. Lastovina	247 P. Kumar	80 E. Kakaras	188 G. Rogl	119 T. Prikhna	109 F. Jumbi	215 L. Andronic	5 A. Al-Thukair
	15:15	360 L. Vignoli	396 P. Giotakos	244 S. Milenkovic	90 F. Salomón	409 D. Leiva	255 T. Cagin	167 M. Bhatti	257 J. Lancok	Round Table
	15:40	BREAK/Poster Session								
	15:55	315 S. Putatunda	136 E. Norkus	Round Table	51 N. Athanassoulis	381 J. Sinnecker	9 H. Martinez	20 M. El-Shenawy	258 F. Kadumudi	Round Table
	16:20	361 V. Dornelas	350 J. Yedoyan	Round Table	32 M. Khan	368 C. Bormio Nunes	199 X. Wu	25 L. Ohja	301 A. Badiru	Round Table
	16:45	341 N. Jalagonia	250 V. Flexer	Round Table	140 T. Prikhna	274 R. Groessinger	194 K. Świerczek	Round Table	328 A. Zhukov	Round Table
	17:10	53 H. Doumanidis	Round Table	Round Table	275 N. Gomidze	306 S. Kobe	117 M. Potesser	Round Table	411 K. Gambaryan	Round Table
	17:35	BREAK/Poster Session								
	17:40	Round Table	Round Table	Round Table	Round Table	30 M. Calin	380 P. Radovanovic	Round Table	87 M. Kulikova	Round Table
	18:05	Round Table	Round Table	Round Table	Round Table	424 M. Zehetbauer	Round Table	Round Table	99 S. Itkulova	Round Table
	19:30	SOCIAL EVENT (TBA)								

Meeting Rooms Diagram

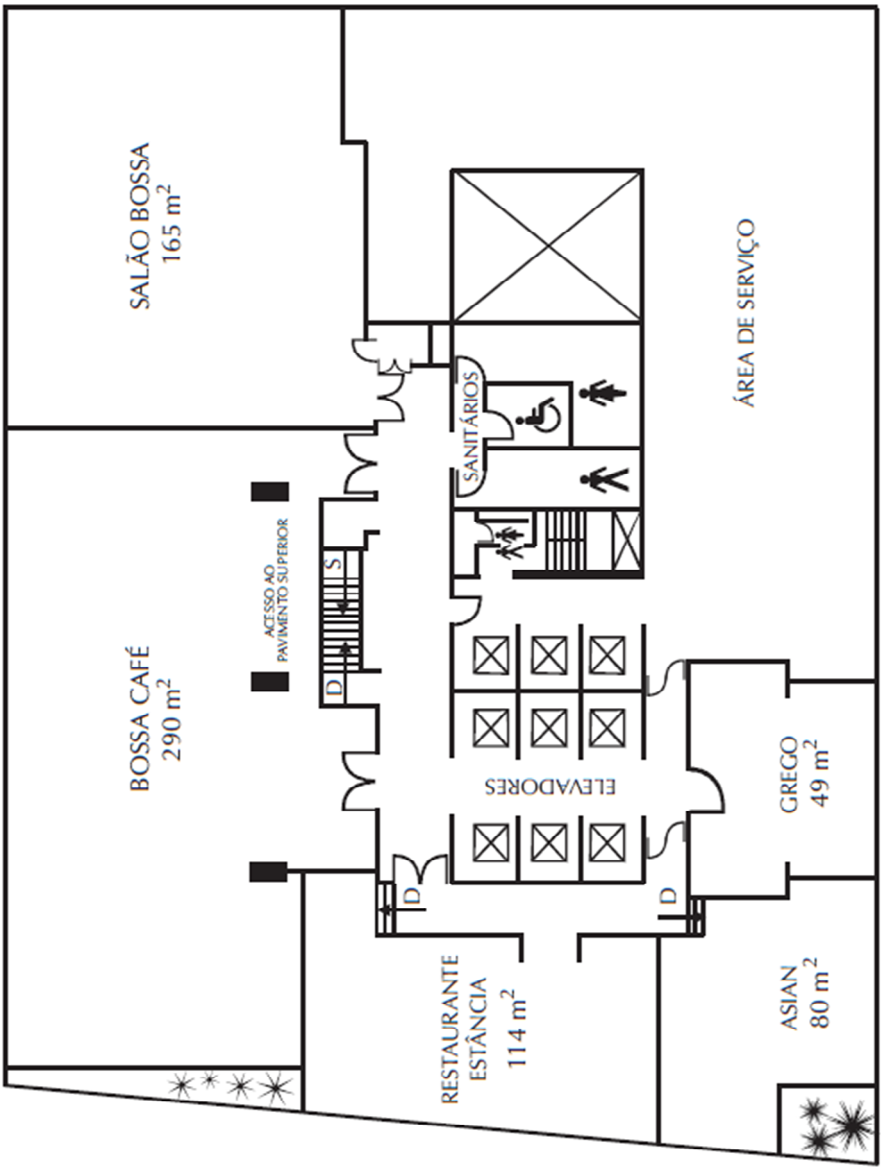
First Floor



Second Floor



Third Floor


SALÃO BOSSA
165 m²
BOSSA CAFÉ
290 m²
ACESSO AO PAVIMENTO SUPERIOR
S
D
SANITÁRIOS
ÁREA DE SERVIÇO
ELEVADORES
D
D
GREGO
49 m²
RESTAURANTE ESTÂNCIA
114 m²
ASIAN
80 m²

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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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- Shelley **Minteer**, The University of Utah, United States
- Ferid **Murad**, 1998 Nobel Prize Winner, United States
- Robin **Rogers**, University of Alabama, United States
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- Marcos **de Campos**, UFF - Federal Fluminense University, Brazil
- Jose Adilson **de Castro**, UFF - Federal Fluminense University, Brazil
- Marcos **de Souza**, FLOGEN Technologies Inc, Brazil
- Mery-Cecilia **Gomez-Marroquin**, National University of Engineering, Peru

- Bernardo **Gontijo**, Grupo AVG, Brazil
- Marilia **Goulart**, Biotechnology Institute, Federal University of Alagoas, Brazil
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Social Events

(Preliminary)

Sunday Nov 4th: Welcoming Informal Dinner and Entertainment (Beachfront)

Monday Nov 5th: Buffet Dinner and Samba Dancing Show (Copacabana A+B)

Tuesday Nov 6th: Gala Dinner and Awards Night, Full Course Meal & Dancing Show
Attire: Black tie/Business (Copacabana A+B)

Wednesday Nov 7th: Closing Social (TBA)

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, 2018 – may be subject to change)

SESSION: **SUMMIT PLENARY**
Mon Nov 5th, 2018 Room: **Copacabana A+B**
Session Chair: Florian Kongoli

08:15: [SummitPlenaryMonAM01] General Plenary
Summit Thematic Opening
Florian Kongoli[1] ; [1]FLOGEN Technologies Inc., Mont-Royal, Canada
Paper Id: 430

08:30: [SummitPlenaryMonAM02] General Plenary
Serendipity Stokes Discovery: Disrupting Established Industries
Fraser Stoddart[1] ; [1]2016 Nobel Laureate; Northwestern University, USA
Paper Id: 438

09:00: [SummitPlenaryMonAM03] General Plenary
Graphene: Magic of Flat Carbon
Andre Geim [1]2010 Nobel Laureate; University of Manchester, UK
Paper Id: 439

09:30: [SummitPlenaryMonAM04] General Plenary
Digital Transformation in Mining: A Sustainable Path to Increasing Productivity, Protecting the Environment, and Developing the Society
Alp Malazgirt[1] ; [1]YILMADEN Corporation, Turkey
Paper Id: 442

10:00: [SummitPlenaryMonPM05] General Plenary
Science Collaboration Across Borders
Donna J. Nelson [1]2016 American Chemical Society President; University of Oklahoma, USA
Paper Id: 436

13:00 LUNCH

SESSION: **SUMMIT PLENARY**
Tue Oct, 24 2017 Room: **Copacabana A+B**
Session Chair: Florian Kongoli

08:15: [SummitPlenaryTueAM01] General Plenary
Thematic Address 1
Florian Kongoli[1] ; [1]Flogen Technologies Inc., Mont-Royal, Canada;
Paper Id: 431

08:30: [SummitPlenaryMonAM02] General Plenary
Intrapreneurship-Key to Success in Large and Small Organizations
Dan Shechtman[1] ; [1]2011 Nobel Laureate; Technion, Israel
Paper Id: 433

09:00: [SummitPlenaryTueAM03] General Plenary
How the Physics Principle of Nuclear Magnetic Resonance Improves the Quality of Daily Human Life
Kurt Wüthrich[1] ; [1]2002 Nobel Laureate; ETH Zürich and University of California, USA
Paper Id: 441

09:30: [SummitPlenaryTueAM04] General Plenary
New Sustainable Processing of RE-based Magnetic Materials
Spomenka Kobe[1] ; [1]Josef Stefan Institute, Slovenia
Paper Id: 408

10:00: [SummitPlenaryTuePM05] General Plenary
Perspectives on the Role of New and Advanced Materials and Technologies for Energy, Environment and Sustainability
Fernand Marquis[1] ; [1]San Diego State University, Department of Mechanical Engineering, San Diego, United States
Paper Id: 427

13:00 LUNCH

SESSION: **SUMMIT PLENARY**
Wed Oct, 25 2017 Room: **Copacabana A+B**
Session Chair: Florian Kongoli

08:15: [SummitPlenaryWedAM01] General Plenary
Thematic Address 2
Florian Kongoli[1] ; [1]Flogen Technologies Inc., Mont-Royal, Canada
Paper Id: 432

08:30: [SummitPlenaryWedAM02] General Plenary
The Discovery and Role of Nitric Oxide and Cyclic GMP in Biological Signaling
Ferid Murad[1] ; [1]1998 Nobel Laureate; George Washington University, USA
Paper Id: 434

09:00: [SummitPlenaryWedAM03] General Plenary
From the Structure and Function of the Ribosome to New Antibiotics
Thomas Steitz[1] ; [1]2009 Nobel Laureate; Yale University, USA
Paper Id: 440

09:30: [SummitPlenaryWedAM04] General Plenary
Novel, Next Generation, Species Specific, Microbiome Preserving and Eco-friendly Antibiotics
Ada Yonath [1] ; [1]2009 Nobel Laureate; Weizmann Institute of Science, Israel
Paper Id: 437

10:00: [SummitPlenaryWedPM05] General Plenary
Advanced Manufacturing: Principles and Industrial Sustainable Applications
Athanasios G. Mamalis [1] ; [1] PC-NAE,Demokritos National Center for Scientific Research, Greece
Paper Id: 428

10:30: [SummitPlenaryWedPM06] General Plenary
The "Unreasonable" Effectiveness of Mathematics in Physics
Peter Rowlands [1] ; [1] University of Liverpool, UK
Paper Id:

13:00 LUNCH

Scientific Program

Oral Presentations

Monday

08:15 AM - 10:30 PM **SUMMIT PLENARY**
10:30 AM Break

SESSION: **IronMonAM-R1**	**Afonso International Symposium on Advanced Sustainable Iron and Steel Making(6th Intl. Symp. on Advanced Sustainable Iron and Steel Making)**
Mon Nov, 5 2018 / Room: **Mar Azul (50/1st)**	
Session Chairs: Florian **Kongoli**; Fausto **Varela Cançado**; Session Monitor: TBA	

11:20: [IronMonAM01] Plenary
The Rise and Fall of the Northern Brazilian Pig Iron Production
Paulo Afonso Gomes[1] ; [1]Consultant, Belo Horizonte, Brazil;
Paper Id: 370

11:45: [IronMonAM02] Plenary
Sustainable Production of Pig Iron in Brazil
Fausto Varela Cançado[1] ; [1]SINDIFER, Belo Horizonte, Brazil;
Paper Id: 376

12:10: [IronMonAM03] Plenary
Viena Siderurgica: A Successful Story of Sustainable Pig Iron Production
Rodrigo Valladares[1] ; [1]Viena Siderúrgica S/A, Açailândia, Brazil;
Paper Id: 387

12:35: [IronMonAM04] Plenary
FLOGEN CONTOP Design, Decision-Making, Control, Optimization and Automation System Applied at Brazilian Blast Furnaces
Paulo Afonso Gomes[1] ; Marcos De Souza[2] ; Florian Kongoli[3] ; [1]Consultant, Belo Horizonte, Brazil; [2]FLOGEN Technologies Inc, Sao Paulo, Brazil; [3]FLOGEN Technologies Inc., Mont-Royal, Canada;
Paper Id: 417

13:00 LUNCH

SESSION: **IronMonPM1-R1** **Afonso International Symposium on Advanced Sustainable Iron and Steel Making(6th Intl. Symp. on Advanced Sustainable Iron and Steel Making)**

Mon Nov, 5 2018 /
Room: **Mar Azul (50/1st)**

Session Chairs: Tateo **Usui**; Jose Carlos **D Abreu**; Session Monitor: TBA

14:00: [IronMonPM105] Plenary
Characterization of Fine and Coarse Sludges of LD Peruvian Steelworks
Mery-cecilia Gomez Marroquin[1] ; Kenny Salazar[2] ; Jose Carlos D Abreu[3] ; [1]NATIONAL UNIVERSITY OF ENGINEERING, Lima, Peru; [2]National University of Engineering, Lima, Peru; [3]PUC-Rio, Rio de Janeiro, Brazil;
Paper Id: 134

14:25: [IronMonPM106] Plenary
Reduction behavior of composite manganese ore-carbon: an analysis
Cyro Takano[1] ; Jose Dabreu[2] ; Ricardo Braga[1] ; Ferry S Belisario Benique[3] ; [1]University of Sao Paulo, Sao Paulo, Brazil; [2]PUC-Rio University, Rio de Janeiro, Brazil; [3]Catholic University of Rio de Janeiro, Rio de Janeiro, Brazil;
Paper Id: 401

14:50: [IronMonPM107] Plenary
Rate Enhancement of Composite Iron Oxide Pellets by Using Semi-char and Semi-charcoal
Tateo Usui[1] ; Hirokazu Konishi[2] ; Kazuhira Ichikawa[3] ; Hideki Ono[2] ; Hirotoshi Kawabata[2] ; Francisco Pena[4] ; Matheus Souza[5] ; Alexandre Xavier[5] ; Paulo Assis[6] ; [1]Osaka University, Ibaraki, Japan; [2]Osaka University, Suita, Japan; [3]JFE Steel Corporation, Fukuyama, Japan; [4]UFOP (Federal University of Ouro Preto), Ouro Preto, Brazil; [5]UFOP, Ouro Preto, Brazil; [6]UFOP (Federal University of Ouro Preto) / REDEMAT, Ouro Preto, Brazil;
Paper Id: 114

15:15: [IronMonPM108]
Theoretical and Experimental Studies on Agglomeration of Fine Particles and Dispersion of Agglomerated Particles in Liquid
Yoshiei Kato[1] ; Md. Azhar Uddin[1] ; [1]Okayama University, Okayama, Japan;
Paper Id: 110

15:40 Break

SESSION: **IronMonPM2-R1** — **Afonso International Symposium on Advanced Sustainable Iron and Steel Making(6th Intl. Symp. on Advanced Sustainable Iron and Steel Making)**

Mon Nov, 5 2018 /
Room: **Mar Azul (50/1st)**

Session Chairs: Cyro **Takano**; Juergen **Antrekowitsch**; Session Monitor: TBA

15:55: [IronMonPM209] Plenary
Steel Mill Dust — Only a Zinc Resource or a Potential Material for Multi Metal Recycling?
Juergen Antrekowitsch[1] ; Gustav Hanke[2] ; [1]Christian Doppler Association, University of Leoben, Leoben, Austria; [2], Leoben, Austria;
Paper Id: 358

16:20: [IronMonPM210] Plenary
Producing Steel with ORIEN Technology: A Case Study
Genrikh Dorofeev[1] ; Florian Kongoli[2] ; [1]Ferro-Technology', Moscow, Tula, Russian Federation; [2]FLOGEN Technologies Inc., Mont-Royal, Canada;
Paper Id: 375

16:45: [IronMonPM211] Plenary
Improvements on Industrial Physical Processes Using Simulation
Nehemias Lacerda[1] ; [1]FEMTO Applied Sciences, Sao Jose dos Campos, Brazil;
Paper Id: 397

17:10: [IronMonPM212] Plenary
Feasibility of Iron Production by Electrowinning
Jose Adilson De Castro[1] ; Marcos De Campos[1] ; [1]UFF - Federal Fluminense University, Volta Redonda, Brazil;
Paper Id: 335

17:35 Break

SESSION: **IronMonPM3-R1** — **Afonso International Symposium on Advanced Sustainable Iron and Steel Making(6th Intl. Symp. on Advanced Sustainable Iron and Steel Making)**

Mon Nov, 5 2018 /
Room: **Mar Azul (50/1st)**

Session Chairs: Cyro **Takano**; Session Monitor: TBA

17:40: [IronMonPM313] Plenary
Metallization and Carburization Kinetic in DR Shaft Furnaces
Edelink Efrain Tinoco Falero[1] ; Mauricio Otaviano[2] ; Jose Carlos D Abreu[1] ; [1]PUC-Rio, Rio de Janeiro, Brazil; [2]Samarco Mining Company, Ubu, Brazil;
Paper Id: 135

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **ElectrochemistryMonAM-R2**

Amatore International Symposium on Electrochemistry for Sustainable Development

Mon Nov, 5 2018 /
Room: **Copacabana B (150/1st)**

Session Chairs: Emmanuel **Mousset**; Session Monitor: TBA

11:20: [ElectrochemistryMonAM01] Plenary
A Combined SERS-DFT Study Towards Deep Understanding Electrocatalysis
Zhongqun Tian[1] ; Yi-fan Huang[2] ; Christian Amatore[3] ; An Wang[2] ; De-yin Wu[2] ; Sandra Rondinini[4] ; [1]Department of Chemistry, Xiamen Uinversity, Xiamen, China; [2]Xiamen University, Xiamen, China; [3]CNRS & PSL, French Academy of Sciences, Paris, France; [4]Universita degli Studi di Milano, Milan, Italy;
Paper Id: 277

11:45: [ElectrochemistryMonAM02]
Selective Reduction of Carbon Dioxide in Water using Earth Abundant Metal and Nitrogen Doped Carbon Electrocatalysts
Kim Daasbjerg[1] ; Xin-ming Hu[1] ; Jun-jie Shi[1] ; Steen U. Pedersen[1] ; Troels Skrydstrup[1] ; Halvor H. Hval[1] ; [1]Interdisciplinary Nanoscience Center, Aarhus University, Aarhus C, Denmark;
Paper Id: 256

12:10: [ElectrochemistryMonAM03]
Electrochemical Activation of Carbon Dioxide for the Synthesis of Chemicals
Christian Amatore[1] ; Alessandro Galia[2] ; **Onofrio Scialdone**[3] ; [1]CNRS & PSL, French Academy of Sciences, Paris, France; [2]Universita degli Studi di Palermo, Palermo, Italy; [3], Palermo, Italy;
Paper Id: 63

12:35: [ElectrochemistryMonAM04] Invited
New Way of Free Hydroxyl Radical (•OH) Reaction Mode Evidenced by Advanced Electrochemical Process
Emmanuel Mousset[1] ; [1]Reactions and Chemical Engineering Laboratory (LRGP) / CNRS - University of Lorraine (UMR 7274), Nancy, France;
Paper Id: 187

13:00 LUNCH

SESSION: **ElectrochemistryMonPM1-R2**

Amatore International Symposium on Electrochemistry for Sustainable Development

Mon Nov, 5 2018 /
Room: **Copacabana B (150/1st)**

Session Chairs: Wei-Hua **Huang**; Session Monitor: TBA

14:00: [ElectrochemistryMonPM105] Plenary
Sustainability of Tissue in the Face of Injury and Disease: Electroanalytical Tools to Promote Life Sustainability
Martyn G Boutelle[1] ; [1]Imperial College London, London, United Kingdom;
Paper Id: 219

14:25: [ElectrochemistryMonPM106] Invited
Stretchable Electrochemical Sensor for Real-Time Monitoring of Cell and Tissue Mechanotransduction
Wei-hua Huang[1] ; [1]Wuhan University, Wuhan, China;
Paper Id: 230

14:50: [ElectrochemistryMonPM107]
Quantitative Analysis of Fusion Pore Dynamics During Vesicular Exocytosis in Neuroendocrine Cells
Alexander Oleinick[1] ; Irina Svir[2] ; Christian Amatore[3] ; [1]CNRS-ENS-SU UMR 8640 PASTEUR, CNRS, Paris, France; [2]Ecole Normale Superieure, Department Chemistry, PARIS, France; [3]CNRS & PSL, French Academy of Sciences, Paris, France;
Paper Id: 98

15:15: [ElectrochemistryMonPM108]
Plasmon Enhanced Spectroscopic and Electrochemical Detection of Biomolecules
Xing-hua Xia[1] ; [1]Nanjing University, Nanjing, China;
Paper Id: 88

15:40 Break

SESSION: **ElectrochemistryMonPM2-R2**

Amatore International Symposium on Electrochemistry for Sustainable Development

Mon Nov, 5 2018 /
Room: **Copacabana B (150/1st)**

Session Chairs: Huangxian **Ju**; Session Monitor: TBA

15:55: [ElectrochemistryMonPM209] Invited
Photoelectrochemical Bioanalysis
Hong-yuan Chen[1] ; Wei-wei Zhao[1] ; Jing-juan Xu[1] ; [1]Nanjing University, Nanjing, China;
Paper Id: 69

16:20: [ElectrochemistryMonPM210]
Electrochemical Catalytic Probes for Amplified Biosensing
Huangxian Ju[1] ; [1]Nanjing University, Nanjing, China;
Paper Id: 103

16:45: [ElectrochemistryMonPM211]
Ultrasensitive Cell Recognition Based on Multifunctional Nanointerface
Xuemei Wang[1] ; [1]Southeast University, Nanjing, China;
Paper Id: 207

17:10: [ElectrochemistryMonPM212] Invited
Some Electrochemical Behavior of Self-assembled DNA-metal Nanoparticle Lattice Films
Lauro Tatsuo Kubota[1] ; Sergio Kogikoski Junior[2] ; [1]Instituto de Quimica – University of Campinas, Campinas, Brazil; [2]Institute of Chemistry - Unicamp, Campinas, Brazil;
Paper Id: 267

17:35 Break

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **MoltenMonAM-R3**

Fehrmann International Symposium on Sustainable Molten Salt and Ionic Liquid Processing (6th Intl. Symp. on Sustainable Molten Salt and Ionic Liquid Processing)

Mon Nov, 5 2018 /
Room: **Bossa (150/3rd)**

Session Chairs: Anders **Riisager**; Session Monitor: TBA

11:20: [MoltenMonAM01]
My Life in Molten Ionic Media
Rasmus Fehrmann[1] ; [1]DTU Chemistry, Lyngby, Denmark;
Paper Id: 56

11:45: [MoltenMonAM02] Plenary
SILP at SIPS: Combining Pharmaceuticals with Ionic Liquids on Silica-Supports
Robin Rogers[1] ; [1]University of Alabama, Tuscaloosa, United States;
Paper Id: 58

12:10: [MoltenMonAM03] Keynote
Spectroscopy and Catalysis: The *Operando* Methodology and Reaction Monitoring, Tools to Understand Structure-Activity Relationships
Miguel Banares[1] ; Raquel Portela[1] ; Mariví Martinez Huerta[1] ; Pedro Avila[1] ; Susana Pérez Ferreras[1] ; Søren Birk Rasmussen[1] ; Vanesa Calvino Casilda[2] ; Alba E. Diaz Alvarez[1] ; Ines Reyero[1] ; Katarzyna Stawicka[3] ; Maciej Trejda[3] ; Maria Ziolek[3] ; Olga Guerrero[4] ; Marco Daturi[5] ; Philippe Bazin[5] ; Guillaume Clet[5] ; Zhenyou Gui[6] ; Nanette Zahrtmann[7] ; Shunmugavel Saravana[8] ; Zhiwen Qi[9] ; Anders Riisager[7] ; Eduardo J. García Suárez[10] ; [1]Institute for Catalysis and Petroleum Chemistry (CSIC), Madrid, Spain; [2]ETS de Ingenieros Industriales, UNED, Madrid, Spain; [3]Adam Mickiewicz University, Poznan, Poland; [4]University of Malaga, Malaga, Spain; [5]LCS University of Caen Normandy, Caen, France; [6]Technical University of Denmark, Lyngby, Denmark; [7]DTU Chemistry, Kgs. Lyngby, Denmark; [8]DTU Chemistry, Lyngby, Denmark; [9]East China University of Science and Technology, Shanghai, China; [10]Technical Univ of Denmark, Kgs. Lyngby, Denmark;
Paper Id: 403

12:35: [MoltenMonAM04]
Use of Ionic Liquids for the Extraction of Actinides and Lanthanides: Synergistic Effects and Task-specific Extractants
Clotilde Gaillard[1] ; Maria Boltoeva[2] ; [1]CNRS, Villeurbanne, France; [2]CNRS-IPHC, Strasbourg, France;
Paper Id: 222

13:00 LUNCH

SESSION: **MoltenMonPM1-R3**

Fehrmann International Symposium on Sustainable Molten Salt and Ionic Liquid Processing (6th Intl. Symp. on Sustainable Molten Salt and Ionic Liquid Processing)

Mon Nov, 5 2018 /
Room: **Bossa (150/3rd)**

Session Chairs: Peter **Wasserscheid**; Session Monitor: TBA

14:00: [MoltenMonPM105] Keynote
Anomalous Behaviour of Ionic Liquids in Electric Fields
Mohd Azizi Nawawi[1] ; Ryan Clark[1] ; Aleksandar Ivanov[1] ; Qingshan Liu[1] ; Joshua Edel[1] ; Marina Kuimova[1] ; Alastair Mcintosh[1] ; **Tom Welton**[2] ; [1]Imperial College, London, United Kingdom; [2]Imperial College London, London, United Kingdom;
Paper Id: 390

14:25: [MoltenMonPM106] Invited
Understanding the Different Partial Charge Representations of Ionic Liquids
Patricia Hunt[1] ; [1]Imperial College London, London, United Kingdom;
Paper Id: 305

14:50: [MoltenMonPM107]
Switchable Aqueous Pentaethylenehexamine for CO_2 Capture
Santosh Khokarale[1] ; Jyri-pekka Mikkola[2] ; [1]Chemistry Department, Umeå University, Umeå, Sweden; [2]Abo Akademi University, Turku, Finland;
Paper Id: 180

15:15: [MoltenMonPM108]
Ionic Liquids for Controlled Synthesis of Functional Materials for Energy-related Applications
Sheng Dai[1] ; [1]University of Tennessee, Knoxville, United States;
Paper Id: 287

15:40 Break

SESSION: **MoltenMonPM2-R3**

Fehrmann International Symposium on Sustainable Molten Salt and Ionic Liquid Processing (6th Intl. Symp. on Sustainable Molten Salt and Ionic Liquid Processing)

Mon Nov, 5 2018 /
Room: **Bossa (150/3rd)**

Session Chairs: Tom **Welton**; Session Monitor: TBA

15:55: [MoltenMonPM209] Keynote
Bulk Liquid Phase Processes Using Ionic Liquids — Success Factors and Recent Examples
Peter Wasserscheid[1] ; Jakob Albert[2] ; [1]Friedrich-Alexander-Universitat, Erlangen, Germany; [2]Institute for Chemical Reaction Engineering, Erlangen, Germany;
Paper Id: 289

16:20: [MoltenMonPM210] Invited
Are Ionic Liquids Revolutionizing Analytical Chemistry?
Mihkel Koel[1] ; [1]Tallinn University of Technology, Tallinn, Estonia;
Paper Id: 31

16:45: [MoltenMonPM211] Invited
Removal of NO from Gas Streams Using Nitrate-based Ionic Liquids
Susanne Mossin[1] ; Rasmus Fehrmann[1] ; Peter L. Thomassen[1] ; [1]DTU Chemistry, Lyngby, Denmark;
Paper Id: 130

17:10: [MoltenMonPM212]
Polymer Ionic Liquids Layers for Textile Chemiresistors
Eva Maresova[1] ; David Tomecek[1] ; Premysl Fitl[1] ; Jan Vlcek[1] ; Sarka Havlova[1] ; Martin Vrnata[1] ; [1]University of Chemistry and Technology Prague, Prague, Czech Republic;
Paper Id: 259

17:35 Break

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **ManufacturingMonAM-R4**
Advanced Manufacturing and Industrial Sustainability

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Mon Nov, 5 2018 /
Room: **Sao Conrado (50/2nd)**

Session Chairs: Dimitris C. **Lagoudas**; Session Monitor: TBA

11:20: [ManufacturingMonAM01] Plenary
Advanced Manufacturing of Advanced Materials from Macro- to Nanoscale: Static to Shock Loading
Athanasios G. Mamalis[1] ; [1]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece;
Paper Id: 423

11:45: [ManufacturingMonAM02] Keynote
The Ethics of Sustainability
Jeremy Ramsden[1] ; Athanasios G. Mamalis[2] ; Nikolaos T. Athanassoulis[3] ; [1]Henge Holdings Ltd, Birkenhead, United Kingdom; [2]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece; [3]Laboratory of Industrial and Energy Economics, NTUA, Athens, Greece;
Paper Id: 95

12:10: [ManufacturingMonAM03] Keynote
Nanotechnology and Sustainability
Jeremy Ramsden[1] ; Alexandra Mamali[2] ; [1]Henge Holdings Ltd, Birkenhead, United Kingdom; [2]Maersk Broker Hellas, Athens, Greece;
Paper Id: 94

12:35: [ManufacturingMonAM04] Keynote
Simulation of the Seismic Performance of Ceiling-Piping-Partition Nonstructural Systems
Manos Maragakis[1] ; [1]University of Nevada, Reno, Reno, United States;
Paper Id: 280

13:00 LUNCH

SESSION: **ManufacturingMonPM1-R4**
Advanced Manufacturing / Mechanics / Structural Plasticity

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Mon Nov, 5 2018 /
Room: **Sao Conrado (50/2nd)**

Session Chairs: Pengwan **Chen**; Session Monitor: TBA

14:00: [ManufacturingMonPM105]
Dynamic Pressure Change of a Liquid Sloshing in a Rotating, Laterally Oscillating, Cylindrical Container
Tatsuo Sawada[1] ; Eisaku Yokose[1] ; Yusuke Saito[1] ; [1]Keio University, Yokohama, Japan;
Paper Id: 111

14:25: [ManufacturingMonPM106]
Dynamic Compressive Behavior of An E-Glass/Polyester Composite Material Subjected to Repeated Loads
Alper Tasdemirci[1] ; Mesut Bayhan[1] ; Semih Berk Seven[1] ; Ayda Ramyar[1] ; **Mustafa Guden**[1] ; [1]İzmir Institute of Technology, İzmir, Turkey;
Paper Id: 124

14:50: [ManufacturingMonPM107]
The Investigation of Low-velocity Drop Weight Impact on Concrete Plates
Alper Tasdemirci[1] ; Semih Berk Seven[1] ; Mehmet Alper Cankaya[2] ; Cetin Uysal[3] ; Selcuk Saatci[3] ; **Mustafa Guden**[1] ; [1]İzmir Institute of Technology, İzmir, Turkey; [2]Izmir Katip Celebi University, Izmir, Turkey; [3]Izmir Institute of Technology, Izmir, Turkey;
Paper Id: 123

15:15: [ManufacturingMonPM108]
Hydrogen Segregation in Palladium: Influence of Hydrogen Content, Temperature and Defects
Tahir Cagin[1] ; Han Leng[2] ; Hieu H. Pham[2] ; [1]Texas A&M University, College Station, United States; [2]Texas A&M University, College Station, United States;
Paper Id: 216

15:40 Break

SESSION: **ManufacturingMonPM2-R4**
Precision / Ultraprecision Manufacturing

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Mon Nov, 5 2018 /
Room: **Sao Conrado (50/2nd)**

Session Chairs: Andras **Szalay**; Session Monitor: TBA

15:55: [ManufacturingMonPM209] Keynote
Faultless Steel Production and Manufacturing
Xenia Vourna[1] ; **Evangelos Hristoforou**[1] ; Athanasios G. Mamalis[2] ; [1]National TU of Athens, Athens, Greece; [2]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece;
Paper Id: 294

16:20: [ManufacturingMonPM210]
Concurrent Method for Design of Sustainable Multi-stage Manufacturing Processes
Sesh Commuri[1] ; Jelena Milisavljevic[2] ; Farrokh Mistree[2] ; Janet Allen[2] ; [1]University of Nevada, Reno, Reno, United States; [2]University of Oklahoma, Norman, United States;
Paper Id: 261

16:45: [ManufacturingMonPM211]
A Simple Magnetic Susceptibility Measuring Technique
Giorgios Banis[1] ; Panayiota Tselou[1] ; Angelo Ferraro[1] ; **Evangelos Hristoforou**[1] ; Athanasios G. Mamalis[2] ; [1]National TU of Athens, Athens, Greece; [2]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece;
Paper Id: 295

17:10: [ManufacturingMonPM212]
Parameters Optimization of Rotary Forming Process of Nickel Superalloy Metal Plates
Sandra Puchlerska[1] ; Krzysztof Zaba[1] ;[0] ; Jaroslaw Pyzik[2] ; [1]Department of Metal Working and Physical Metallurgy of Non-Ferrous Metals, Cracow, Poland; [2]AGH University of Science and Technology, Krakow, Poland;
Paper Id: 268

17:35 Break

SESSION: **ManufacturingMonPM3-R4**
Metal Forming / Metal Removal Processing / Non-Conventional Techniques – I

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Mon Nov, 5 2018 /
Room: **Sao Conrado (50/2nd)**

Session Chairs: Raul S. **Turmanidze**; Session Monitor: TBA

17:40: [ManufacturingMonPM313]
Synthesis of ZnSe Films by Electrochemical Deposition for Assembly of Photo-transforming Heterostructures
Dmitri S. Sofronov[1] ; **Athanasios G. Mamalis**[2] ; Vadym V. Starikov[3] ; E.m. Sofronova[1] ; E.a. Vaksler[1] ; P.v. Mateychenko[1] ; Sergiy N. Lavrynenko[4] ; [1]SSI "Institute for Single Crystals" of NAS of Ukraine, Kharkiv, Ukraine; [2]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece; [3]National Technical University - Kharkov Polytechnic Institute, Kharkiv, Ukraine; [4]Kharkov Polytechnic Institute, Kharkov, Ukraine;
Paper Id: 170

18:05: [ManufacturingMonPM314]
Efficiency of Hard Machining Processes
János Kundrák[1] ; Athanasios G. Mamalis[2] ; Viktor Molnar[1] ; [1]University of Miskolc, Miskolc, Hungary; [2]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece;
Paper Id: 158

19:30 PM Dinner

SESSION: **SISAMMonAM-R5**
SPD Nanomaterials

Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Mon Nov, 5 2018 /
Room: **Copacabana A (150/1st)**

Session Chairs: Ruslan **Valiev**; Werner **Skrotzki**; Session Monitor: TBA

11:20: [SISAMMonAM01] Keynote
Recent Advances in SPD Processing of Nanomaterials with Superior Properties
Ruslan Valiev[1] ; [1]Ufa State Aviation Technical University, Ufa, Russian Federation;
Paper Id: 228

11:45: [SISAMMonAM02] Invited
Exploring the Paradox of Strength and Ductility
Terence G. Langdon[1] ; Roberto B. Figueiredo[2] ; Praveen Kumar[3] ; Megumi Kawasaki[4] ; [1]University of Southampton, Southampton, United Kingdom; [2]Federal University of Minas Gerais, Belo Horizonte, Brazil; [3]Indian Institute of Science, Bangalore, India; [4]Oregon State University, Corvallis, United States;
Paper Id: 233

12:10: [SISAMMonAM03] Invited
Effect of Texture on Shear Banding in ECAP
Werner Skrotzki[1] ; Laszlo Toth[2] ; Laura Lienshoeft[1] ; Julius Huhn[1] ; Philipp Frint[3] ; Martin Franz-xaver Wagner[3] ; [1]Dresden University of Technology, Dresden, Germany; [2]Lorraine University, Metz, France; [3]Chemnitz University of Technology, Chemnitz, Germany;
Paper Id: 270

12:35: [SISAMMonAM04] Invited
A New Continuous Severe Plastic Deformation Process for Metal Sheets: Single-roll Angular Rolling
Hyoung Seop Kim[1] ; Hak Hyeon Lee[2] ; [1]POSTECH, Pohang, South Korea; [2]Pohang University of Science and Technology, Pohang, South Korea;
Paper Id: 324

13:00 LUNCH

SESSION: **SISAMMonPM1-R5**
Current Intelligent Sustainable Advanced Materials like Graphene, CNTs, High Entropy Alloys

Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Mon Nov, 5 2018 /
Room: **Copacabana A (150/1st)**

Session Chairs: Terry **Lowe**; Yuntian **Zhu**; Session Monitor: TBA

14:00: [SISAMMonPM105] Keynote
Heterostructured Materials: A New Paradigm for Designing Metals for Superior Mechanical Properties
Yuntian Zhu[1] ; [1]North Carolina State University, Raleigh, United States;
Paper Id: 291

14:25: [SISAMMonPM106] Invited
Diffusive and Displacive Phase Transformations Driven by High Pressure Torsion
Boris Straumal[1] ; Askar Kilmametov[2] ; Olga Kogtenkova[3] ; Andrey Mazilkin[2] ; Brigitte Baretzky[2] ; [1]Institute of Solid State Physics RAS, Chernogolovka, Russian Federation; [2]Institute of Nanotechnology, Eggenstein-Leopoldshafen, Germany; [3]Institute of Solid State Physics, Chernogolovka, Russian Federation;
Paper Id: 302

14:50: [SISAMMonPM107] Keynote
Dislocation Mediated Plasticity During the Deformation of Semicrystalline Polymers
Florian Spieckermann[1] ; Harald Wilhelm[2] ; Gerald Polt[3] ; Mohammad Zareghomsheh[3] ; Michael J. Zehetbauer[4] ; [1]University of Leoben, Leoben, Austria; [2]LKT-TGM, 1200, Austria; [3]University of Vienna, 1090, Austria; [4]University of Vienna, Faculty of Physics, Wien, Austria;
Paper Id: 132

15:15: [SISAMMonPM108] Invited
Emergence of Industrial Production of High Performance Metals by Severe Plastic Deformation
Terry Lowe[1] ; [1]Colorado School of Mines, Golden, United States;
Paper Id: 345

15:40 Break

SESSION: **SISAMMonPM2-R5**
H2-Storage Advanced Materials

Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Mon Nov, 5 2018 /
Room: **Copacabana A (150/1st)**

Session Chairs: Zenji **Horita**; Christine **Borchers**; Session Monitor: TBA

15:55: [SISAMMonPM209] Keynote
Severe Plastic Deformation for Production of High-performance Hydrogen Storage Materials
Zenji Horita[1] ; [1]Kyushu University, Fukuoka, Japan;
Paper Id: 271

16:20: [SISAMMonPM210] Invited
Controlling Hydrogen Absorption and Release Kinetics of Palladium Through Surface Structural Modifications
Shohei Ogura[1] ; Koichi Kato[1] ; Katsuyuki Fukutani[1] ; Ohno Satoshi[1] ; **Markus Wilde**[1] ; [1]Institute of Industrial Science, The University of Tokyo, Tokyo, Japan;
Paper Id: 391

16:45: [SISAMMonPM211] Invited
Solute-defect Interaction in the Framework of a Defactant Concept
Christine Borchers[1] ; Reiner Kirchheim[2] ; [1]Univ. Goettingen, Institute f. Materialphysik, Goettingen, Germany; [2]Univ. Goettingen, Institut f. Materialphysik, 37077 Goettingen, Germany;
Paper Id: 293

17:10: [SISAMMonPM212] Invited
Long-term Hydrogen Storage in Mg and ZK60 After Severe Plastic Deformation
Gerhard Krexner[1] ; Michael J. Zehetbauer[2] ; [1]University of Vienna, Vienna, Austria; [2]University of Vienna, Faculty of Physics, Wien, Austria;
Paper Id: 299

17:35 Break

SESSION: **SISAMMonPM3-R5**
H2-Storage Advanced Materials

Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Mon Nov, 5 2018 /
Room: **Copacabana A (150/1st)**

Session Chairs: Zenji **Horita**; Christine **Borchers**; Session Monitor: TBA

17:40: [SISAMMonPM313] Invited
Effect of Hydrogen on Generation of Lattice Defects and Defect Hardening of Plastically Deformed Palladium
Yuzeng Chen[1] ; Daria Setman[2] ; Jakub Cizek[3] ; Christine Borchers[4] ; Reiner Kirchheim[5] ; Martin Deutges[6] ; [1]Northwestern Polytechnique University, China, Xi'an, China; [2]University of Vienna, Vienna, Austria; [3]Charles University in Prague, Prague, Czech Republic; [4]Univ. Goettingen, Institute f. Materialphysik, Goettingen, Germany; [5]Univ. Goettingen, Institut f. Materialphysik, 37077 Goettingen, Germany; [6]Universität Göttingen, Göttingen, Germany;
Paper Id: 312

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **AdvancedMaterialsMonAM-R6**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Mon Nov, 5 2018 /
Room: **Guaratiba (60/2nd)**

Session Chairs: Fernand **Marquis**; Alain **Tressaud**; Session Monitor: TBA

11:20: [AdvancedMaterialsMonAM01] Keynote
Design of Lanthanide-based Phosphors Using Quantum Chemical Calculations
Werner Urland[1] ; [1]Private Institute of Theoretical Chemical Physics, Muralto, Switzerland;
Paper Id: 52

11:45: [AdvancedMaterialsMonAM02] Invited
Development of Hybrid Reinforced Corrosion Resistant Polymer Concretes
Nikoloz Chikhradze[1] ; Fernand Marquis[2] ; Guram Abashidze[1] ; Davit Tsverava[3] ; [1]G. Tsulukidze Mining Institute, Tbilisi, Georgia; [2]San Diego State University, San Diego, United States; [3]LEPL Grigol Tsulukidze Mining Institute/M.Sc. Student of Georgian Technical University, Tbilisi, Georgia;
Paper Id: 59

12:10: [AdvancedMaterialsMonAM03]
Climbing the Pyramid to Clean, Commercially Useful, Acid Induced Polymerizations
Stewart Lewis[1] ; [1]Pyramid Polymers LLC, New Kensington, United States;
Paper Id: 19

12:35: [AdvancedMaterialsMonAM04]
Climbing the Pyramid to Clean, Commercially Useful, Acid Induced Polymerizations (Part II)
Stewart Lewis[1] ; [1]Pyramid Polymers LLC, New Kensington, United States;
Paper Id: 339

13:00 LUNCH

SESSION: **AdvancedMaterialsMonPM1-R6**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Mon Nov, 5 2018 /
Room: **Guaratiba (60/2nd)**

Session Chairs: Janina **Molenda**; Michael **Zharnikov**; Session Monitor: TBA

14:00: [AdvancedMaterialsMonPM105] Keynote
Fabrication and Potential Applications of Novel Poly(ethylene glycol) Hydrogel Films and Nanomembranes
Michael Zharnikov[1] ; [1]Heidelberg University, Heidelberg, Germany;
Paper Id: 74

14:25: [AdvancedMaterialsMonPM106] Invited
A Concept of Embedded Dipole in Interfacial Engineering and its Applications in Organic Electronics
Michael Zharnikov[1] ; [1]Heidelberg University, Heidelberg, Germany;
Paper Id: 75

14:50: [AdvancedMaterialsMonPM107] Invited
Cathode Electronic Structure Impact on the Parameters of Lithium and Sodium Batteries
Janina Molenda[1] ; [1]AGH University of Science and Technology, Kraków, Kraków, Poland;
Paper Id: 22

15:15: [AdvancedMaterialsMonPM108] Invited
Fabrication of Nanocomposites by Mechanical Alloying and Explosive Consolidation
Nikoloz Chikhradze[1] ; Guram Abashidze[1] ; Fernand Marquis[2] ; Mikheil Chikhradze[3] ; [1]G. Tsulukidze Mining Institute, Tbilisi, Georgia; [2]San Diego State University, San Diego, United States; [3]Georgian Technical University, Tbilisi, Georgia;
Paper Id: 212

15:40 Break

SESSION: **AdvancedMaterialsMonPM2-R6**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Mon Nov, 5 2018 /
Room: **Guaratiba (60/2nd)**

Session Chairs: Tetiana **Prikhna**; Joseph **Newkirk**; Session Monitor: TBA

15:55: [AdvancedMaterialsMonPM209] Keynote
Creating the Materials of Tomorrow
Joseph Newkirk[1] ; [1]Missouri University of Science & Technolgy, Rolla, United States;
Paper Id: 27

16:20: [AdvancedMaterialsMonPM210] Invited
Electroerosion Coagulation and Dispersion for Complex Water Purification, Waste Recycling and Manufacturing of Metals, Oxides, and Alloys Nanopowders
Mykola Monastyrov[1] ; **Tetiana Prikhna**[2] ; Bernd Halbedel[3] ; Gennadii Kochetov[4] ; Fernand Marquis[5] ; [1]Open International University of Human Development Ukraine, Kiev, Ukraine; [2]Institute Superhard Materials, Kiev, Ukraine; [3]Technische Universitat Ilmenau, Ilmenau, Germany; [4]NATIONAL UNIVERSITY OF CONSTRUCTION AND ARCHITECTURE, Kyiv, Ukraine; [5]San Diego State University, San Diego, United States;
Paper Id: 122

16:45: [AdvancedMaterialsMonPM211]
The Quest for Electronic Ferroelectricity in Organic Charge-transfer Crystals
Alberto Girlando[1] ; [1]Parma University, Parma, Italy;
Paper Id: 108

17:10: [AdvancedMaterialsMonPM212] Keynote
Understanding the Behaviour of Advanced Alloys is Critical to Safe and Reliable Performance of Modern Equipment in the Energy Sector
Jonathan David Parker[1] ; [1]EPRI, Charlotte, United States;
Paper Id: 327

17:35 Break

SESSION: **AdvancedMaterialsMonPM3-R6**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Mon Nov, 5 2018 /
Room: **Guaratiba (60/2nd)**

Session Chairs: Krzysztof **Wierzbanowski**; Andrzej **Baczmanski**; Session Monitor: TBA

17:40: [AdvancedMaterialsMonPM313] Invited
Microstructure, Texture and Mechanical Characteristics of Polycrystalline Copper After Asymmetric Rolling
Agnieszka Uniwersał[1] ; **Krzysztof Wierzbanowski**[1] ; Mirosław Wrobel[1] ; Sebastian Wronski[1] ; Marcin Wronski[1] ;[0] ; [1]AGH University of Science and Technology, Kraków, Poland;
Paper Id: 200

18:05: [AdvancedMaterialsMonPM314] Invited
Intergranular Stresses and Micro-damage Process in Two-phase Materials Studied Using Diffraction and Self-consistent Model
Andrzej Baczmanski[1] ; Elzbieta Gadalinska[2] ; Sebastian Wronski[3] ; Przemyslaw Kot[3] ; Christian Scheffzuek[4] ; Gizo Bokuchava[4] ; Lea Le Joncour[5] ; Yuchen Zhao[5] ; [1]AGH University of Science and Technology, Faculty of Physics and Applied Computer Science, Krakow, Poland; [2]Institute of Aviation, Warszawa, Poland; [3]AGH-University of Science and Technology, WFiIS, Krakow, Poland; [4]FLNP, Joint Institute for Nuclear Research, Dubna, Russian Federation; [5]ICD-LASMIS, Universite de Technologie de Troyes, Troyes, France;
Paper Id: 213

19:30 Dinner

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **Non-ferrousMonAM-R7**

6th Intl. Symp. on Sustainable Non-ferrous Smelting and Hydro/Electrochemical Processing

Mon Nov, 5 2018 /
Room: **Pontal (50/2nd)**

Session Chairs: Margarita **Gutierrez-Ruiz**; Gustav **Hanke**; Session Monitor: TBA

11:20: [Non-ferrousMonAM01] Plenary
Applications and Market of Rare-earths
Marcos De Campos[1] ; Jose Adilson De Castro[1] ; [1]UFF - Federal Fluminense University, Volta Redonda, Brazil;
Paper Id: 334

11:45: [Non-ferrousMonAM02] Keynote
Characterization Strategies for Metallurgical Byproducts: Jarosite Case Study
Gustav Hanke[1] ; [1], Leoben, Austria;
Paper Id: 359

12:10: [Non-ferrousMonAM03] Keynote
Determination of Bioaccessibility of As and Pb in Soils Polluted With Mining Wastes: A New Equipment That Simplifies the Gastric and Intestinal Phases Measurements
Thalia Rodriguez[1] ; **Margarita Gutierrez Ruiz**[2] ; Daniel Quiroz Vivanco[2] ; Agueda Ceniceros[2] ; Tania Tavares[3] ; Arturo Aguirre Gomez[4] ; [1]Faculdad de Quimica, UNAM, Mexico, Mexico; [2]UNAM, Mexico, Mexico; [3]UFBA, Rio de Janeiro, Brazil; [4]FES Cuautitlan UNAM, Cuautitlan, Mexico;
Paper Id: 365

12:35: [Non-ferrousMonAM04] Keynote
Application Study on Technology of Reducing Copper Content in Discarded Slag
Zhi Wang[1] ; [1]Dongying Fangyuan, Dongying, China;
Paper Id: 65

13:00 LUNCH

SESSION: **Non-ferrousMonPM1-R7**

6th Intl. Symp. on Sustainable Non-ferrous Smelting and Hydro/Electrochemical Processing

Mon Nov, 5 2018 /
Room: **Pontal (50/2nd)**

Session Chairs: Pavel **Kozlov**; JiWhan **Ahn**; Session Monitor: TBA

14:00: [Non-ferrousMonPM105] Plenary
A New Sustainable Process for the Gasification Coal Fines and Recovering of Metals and Alumosilicates from their Ashes
Valentin Tsymbal[1] ; Inna Rybenko[1] ; Alexey Olennikov[2] ; Pavel Sechenov[1] ; Florian Kongoli[3] ; [1]Siberian State Industrial University, Novokuznetzk, Russian Federation; [2]Tyumen State University, Tyumen, Russian Federation; [3]FLOGEN Technologies Inc., Mont-Royal, Canada;
Paper Id: 208

14:25: [Non-ferrousMonPM106] Keynote
Feasibility of Producing Caustic Calcined Magnesia in Multiple Hearth Furnaces
Musa Rizaj[1] ; Nurten Deva[2] ; Edward Z. Obrien[3] ; Florian Kongoli[4] ; [1]Prishtina University, Prishtina, Kosovo; [2]Public University of Mitrovice - Isa Boletini - , Faculty of Geosciences, Republic of Kosova, Mitrovice, Kosovo; [3]FLOGEN TECHNOLOGIES INC, Wilmington, United States; [4]FLOGEN Technologies Inc., Mont-Royal, Canada;
Paper Id: 386

14:50: [Non-ferrousMonPM107] Plenary
Utilization of Green Cement (CSA) with CFBC Coal Power Plant Byproducts for 3D Printing Construction Materials for Sustainable Society
Jiwhan Ahn[1] ; Thenepalli Thriveni[1] ; Ramakrishna Chilakala[2] ; [1]KIGAM (Korea Institute of Geoscience and Mineral Resources), Daejeon, Republic of South Korea; [2]Hanil Cement Co Ltd.,, Daejeon, South Korea;
Paper Id: 378

15:15: [Non-ferrousMonPM108] Keynote
Hydrometallurgical Processing of Industrial Copper Waste With Tin Recovery
Pavel Kozlov[1] ; A. Panshin[2] ; Sergey Yakornov[3] ; [1]UMMC-Holding, Moscow, Russian Federation; [2]LLC UMMC-Holding", Verkhnyaya Pyshma, Russian Federation; [3]LLC "UMMC-Holding", Verkhnya Pyshma, Russian Federation;
Paper Id: 406

15:40 Break

SESSION: **Non-ferrousMonPM2-R7**

6th Intl. Symp. on Sustainable Non-ferrous Smelting and Hydro/Electrochemical Processing

Mon Nov, 5 2018 /
Room: **Pontal (50/2nd)**

Session Chairs: Shefik **Imeri**; Andrej **Ivanič**; Session Monitor: TBA

15:55: [Non-ferrousMonPM209] Invited
Production of Glass Wool From the Liquid Slag of a 42 MW Electric Arc Furnace for Fe -Ni Production in Newco Ferronickel
Shefik Imeri[1] ; Florian Kongoli[2] ; [1]MIM-GOLESH, Prishtina, Kosovo; [2]FLOGEN Technologies Inc., Mont-Royal, Canada;
Paper Id: 60

16:20: [Non-ferrousMonPM210]
Studying Effective Parameters in Reduction Waste Copper of Electrical Resistance Furnace Slag in Khatoonabad Smelter
Moein Koochaki[1] ; [1]National Iranian Copper Industries Company, Tehran, Iran, Iran;
Paper Id: 326

16:45: [Non-ferrousMonPM211] Invited
Freeze/Thaw Performance of Concrete with Addition of Fly Ash and Recycled Rubber
Andrej Ivanič[1] ; Sebastian Toplak[2] ; Samo Lubej[2] ; [1]University of Maribor, Maribor, Slovenia; [2]Faculty of civil engineering, transportational engineering and architecture, University of Maribor, Maribor, Slovenia;
Paper Id: 236

17:10: [Non-ferrousMonPM212]
Extraction of Creatinine by Adsorption Onto Pure Micro- and Mesoporous Silica Materials
Hadj Hamaizi[1] ; Leila Kharbouche[2] ; Ghazala Benbakhta[2] ; Mustapha Mokhtari[3] ; María Dolores Gil García[3] ; María Martínez Galera[3] ; [1], Oran, Algeria; [2]University of Oran, Oran, Algeria; [3]University of Almería, Almeria, Spain;
Paper Id: 15

17:35 Break

SESSION: **Non-ferrousMonPM3-R7** — **6th Intl. Symp. on Sustainable Non-ferrous Smelting and Hydro/Electrochemical Processing**

Mon Nov, 5 2018 /
Room: **Pontal (50/2nd)**

Session Chairs: Eugene **Wong**; Cibele **Sanchez Roboredo**; Session Monitor: TBA

17:40: [Non-ferrousMonPM313]
Advantages of Using Low Alkali Cements and Industrial Waste Materials in Prevention of Alkali-silica Reaction in Concrete
Cibele Sanchez Roboredo[1] ; Paul Thomas[2] ; Kirk Vessalas[2] ;[0] ; [1], Sydney, Australia; [2]University of Technology Sydney, Sydney, Australia;
Paper Id: 238

18:05: [Non-ferrousMonPM314] Invited
Synthesis and Characterization of High Performance Magnesium Nanocomposites
Eugene Wong[1] ; Manoj Gupta[2] ; [1]Newcastle University in Singapore, Singapore, Singapore; [2]National University of Singapore, Singapore, Singapore;
Paper Id: 116

19:30 PM Dinner

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **CompositeMonAM-R8** — **6th Intl. Symp. on Composite, Ceramic and Nano Materials Processing, Characterization and Applications**

Mon Nov, 5 2018 /
Room: **Grego (50/3rd)**

Session Chairs: Pawel **Rokicki**; Marcos **de Campos**; Session Monitor: TBA

11:20: [CompositeMonAM01] Plenary
Aviation Coatings for Volcanic Environments
Pawel Rokicki[1] ; Marek Goral[1] ; Andrzej Nowotnik[2] ; [1]Rzeszow University of Technology, Research and Development Laboratory for Aerospace Materials, Rzeszow, Poland; [2]Rzeszow University of Technology, Rzeszow, Poland;
Paper Id: 107

11:45: [CompositeMonAM02]
Improved Nanocrystalline Structures for Magnetic Recording
Marcos De Campos[1] ; Jose Adilson De Castro[1] ; [1]UFF - Federal Fluminense University, Volta Redonda, Brazil;
Paper Id: 336

12:10: [CompositeMonAM03]
Batteries: Trends in the Market and Research
Marcos De Campos[1] ; [1]UFF - Federal Fluminense University, Volta Redonda, Brazil;
Paper Id: 337

12:35: [CompositeMonAM04]
Optimized Materials for Wind Turbines and Electric Motors
Marcos De Campos[1] ; [1]UFF - Federal Fluminense University, Volta Redonda, Brazil;
Paper Id: 338

13:00 LUNCH

SESSION: **CompositeMonPM1-R8** — **6th Intl. Symp. on Composite, Ceramic and Nano Materials Processing, Characterization and Applications**

Mon Nov, 5 2018 /
Room: **Grego (50/3rd)**

Session Chairs: Raman **Singh**; Gabor **Patonay**; Session Monitor: TBA

14:00: [CompositeMonPM105] Plenary
Ultra-thin Graphene Coating on Metals for Corrosion Resistance: Opportunities and Challenges
Raman Singh[1] ; [1]Monash University, Monash University, Australia;
Paper Id: 168

14:25: [CompositeMonPM106]
Effects of Various Additives and Sintering Temperature on Phase Evolution and Properties of Carbon-Clay Ceramic Composites
Fatai Olufemi Aramide[1] ; Olusola Dayo Adepoju[2] ; Patricia Abimbola Popoola[3] ; [1]Department of Metallurgical and Materials Engineering, Federal University of Technology, Akure, Nigeria; [2]Metallurgical and Materials Engineering, Federal University of Technology, Akure, Nigeria; [3]Department of Chemical, Metallurgical and Materials Engineering, Tshwane University of Technology, Pretoria, South Africa;
Paper Id: 89

14:50: [CompositeMonPM107]
How to Generate More Fluorescence with Less: Silica Nanoparticle Encapsulated Dyes
Gabor Patonay[1] ; Eman Alsolmy[1] ; Maged Henary[1] ; [1]Georgia State University, Atlanta, United States;
Paper Id: 227

15:15: [CompositeMonPM108]
Thermoelectric Properties of the Layered Rhodates K_xRhO_2 and Na_xCoO_2
Udo Schwingenschlogl[1] ; Nirpendra Singh[1] ; Yasir Saeed[1] ; [1]King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia;
Paper Id: 290

15:40 Break

SESSION: **CompositeMonPM2-R8** — **6th Intl. Symp. on Composite, Ceramic and Nano Materials Processing, Characterization and Applications**

Mon Nov, 5 2018 /
Room: **Grego (50/3rd)**

Session Chairs: Chia-Hua **Chan**; Giovanni **Perillo**; Session Monitor: TBA

15:55: [CompositeMonPM209]
Comparative Analysis on Monolithic DeNOx Catalysts
Giovanni Perillo[1] ; [1]Wessex Institute of Technology, Southampton, United Kingdom;
Paper Id: 292

16:20: [CompositeMonPM210]
Rice Husks Fibre Reinforced Polypropylene Composites for Structural Reuse - A Technological Solution to an Environmental Challenge in Sub-Saharan Africa
Edward Odhong[1] ; Alex Munyasya Muumbo[2] ; Abel N. Mayaka[3] ; [1]Multimedia University of Kenya, NAIROBI, Kenya; [2]The Technical University of Kenya, Nairobi, Kenya; [3]Multimedia University of Kenya, Nairobi, Kenya;
Paper Id: 26

16:45: [CompositeMonPM211]
Applications of Microsphere Monolayers on Solar Cells and LEDs
Chia-hua Chan[1] ; Chii-chang Chen[1] ; [1]National Central University, Taoyuan, Taiwan;
Paper Id: 278

17:10: [CompositeMonPM212]
Influence of the Structural Parameters on the Optical Properties of Nano-dispersive Nickel
Lali Kalandadze[1] ; Omar Nakashidze[2] ; Nugzar Gomidze[2] ; Izolda Jabnidze[2] ; [1]Batumi Shota Rustaveli State University, Batumi, Georgia; [2]Batumi Shota Rustaveli State University, Batumi, Georgia;
Paper Id: 276

17:35 Break

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **BatteryMonAM-R9**

5th Intl. Symp. on Sustainable Secondary Battery Manufacturing and Recycling

Mon Nov, 5 2018 /
Room: **Asian (60/3rd)**

Session Chairs: Vasant **Kumar**; Miles **Freeman**; Session Monitor: TBA

11:20: [BatteryMonAM01] Keynote
Lead-acid Battery Recycling - A Different Way
Miles Freeman[1] ; **Athan Fox**[1] ; Robert Liu[1] ; Johdie Harris[1] ; Vasant Kumar[2] ; [1]Aurelius Environmental, Dudley, United Kingdom; [2]University of Cambridge, Cambridge, United Kingdom ;
Paper Id: 426

11:45: [BatteryMonAM02] Keynote
Preparation of High-Performance Cathode and Anode Materials for Sodium-Ion Batteries and Investigating the Reaction Mechanism
Ghulam Ali[1] ; Ji Young Kim[2] ; Hee-dae Lim[3] ; **Kyung Yoon Chung**[4] ; [1]Korea Institute of Science and Technology (KIST), SEONGBUK-GU, South Korea; [2]Advanced Analysis Center, Korea Institute of Science and Technology, Seoul, South Korea; [3]Korea Institute of Science and Technology (KIST), Seoul, South Korea; [4]Korea Institute of Science and Technology, Seoul, South Korea;
Paper Id: 389

12:10: [BatteryMonAM03]
Enabling Cost Effective Implementation of Next Generation Active Materials for Post Lithium Ion Batteries with Nitrogen-doped Single-walled Carbon Nanohorns
Claudio Capiglia[1] ; [1]Recruit R&D, Tokyo, Japan;
Paper Id: 97

12:35: [BatteryMonAM04] Invited
Development of Nanostructured Electrode Materials for High Performance Secondary Batteries Using Ammonium Fluoride
Jinyoung Chun[1] ; [1]Korea Institute of Ceramic Engineering & Technology (KICET), Jinju, Republic of South Korea;
Paper Id: 371

13:00 LUNCH

SESSION: **BatteryMonPM1-R9**

5th Intl. Symp. on Sustainable Secondary Battery Manufacturing and Recycling

Mon Nov, 5 2018 /
Room: **Asian (60/3rd)**

Session Chairs: Claudio **Capiglia**; Jim **Zheng**; Session Monitor: TBA

14:00: [BatteryMonPM105]
NOVOpb - A Complete Lead Recycling System to Enhance Brazilian Sustainability
Deise Menezes Santos[1] ; Yandiara Larissa Barros[2] ; Marcos Benedito Jose Geraldo De Freitas[3] ; André Gustavo De Sousa Galdino[4] ; Matheus Carvalho[5] ; Francklin Jonas De Paula[6] ; Vasant Kumar[7] ; [1], Vitoria, Brazil; [2]Instituto Federal do Espirito Santo, Vitoria, Brazil; [3]Universidade Federal do Espirito Santo, Vitoria, Brazil; [4]Instituto Federal do Espírito Santo, Vitória, Brazil; [5]Instituto Federal de Minas Gerais, Governador Valadares, Brazil; [6]Faculdade Pitagoras, Governador Valadares, Brazil; [7]University of Cambridge, Cambridge, United Kingdom ;
Paper Id: 385

14:25: [BatteryMonPM106]
Solution-based Synthesis of Li_3PS_4 Solid Electrolytes
Hee-dae Lim[1] ; Xing Xing[2] ; Ping Liu[2] ; [1]Korea Institute of Science and Technology (KIST), Seoul, South Korea; [2]University of California, San Diego (UCSD), San Diego, United States;
Paper Id: 384

14:50: [BatteryMonPM107] Keynote
Internal Hybrid Li-ion Battery-Capacitor Energy Storage Cells
Annadanesh Shellikeri[1] ; Mark Andrew Hagen[1] ; Jin Yan[2] ; W.j. Cao[2] ; Richard Jow[3] ; Jeffrey A. Read[3] ; **Jim Zheng**[1] ; [1]Florida A&M University and Florida State University, Tallahassee, United States; [2]General Capacitor LLC, Tallahassee, United States; [3]U.S. Army Research Laboratory, Adelphi, United States;
Paper Id: 283

15:15: [BatteryMonPM108]
New Possibilities in the Next Generation of Lead-Acid Batteries
Vasant Kumar[1] ; [1]University of Cambridge, Cambridge, United Kingdom ;
Paper Id: 382

15:40 Break

SESSION: **BatteryMonPM2-R9**

5th Intl. Symp. on Sustainable Secondary Battery Manufacturing and Recycling

Mon Nov, 5 2018 /
Room: **Asian (60/3rd)**

Session Chairs: Thierry **Djenizian**; Vimalnath **Selvaraj**; Session Monitor: TBA

15:55: [BatteryMonPM209] Invited
Crystal Growth of High-quality Lithium Metal Phosphates and Its Derivative by Using Flux Method
Tetsuya Yamada[1] ; Katsuya Teshima[2] ; [1]Center for Energy & Environmental Science, Shinshu University, Nagano, Japan; [2]Center for Energy & Environmental Science, Department of Materials Chemistry, Shinshu University, Nagano, Japan;
Paper Id: 323

16:20: [BatteryMonPM210]
Dissolution of Spent Lead Acid Battery Paste for Lead Recovery, Bio-sensing and Bio-removal of Residual Pb Ions
Vimalnath Selvaraj[1] ; Vasant Kumar[2] ; Carsten Schwandt[3] ; Subramanian Sankaran[4] ; [1]University of Cambridge, Cambridge, United Kingdom; [2]University of Cambridge, Cambridge, United Kingdom ; [3]University of Nizwa, Nizwa, Oman; [4]Indian Institute of Science, Bengaluru, India;
Paper Id: 392

16:45: [BatteryMonPM211]
High Performance of Chemically Modified TiO_2 Nanotubes for Lithium-ion Microbatteries
Thierry Djenizian[1] ; [1]Ecole des Mines Saint-Etienne, Gardanne, France;
Paper Id: 203

17:10: [BatteryMonPM212] Keynote
Flux-Crystal Growth Engineering Toward Next-generation Batteries: Electrode Material and Interfacial Designs
Katsuya Teshima[1] ; Tetsuya Yamada[2] ; Shuji Oishi[3] ; Nobuyuki Zettsu[4] ; [1]Center for Energy & Environmental Science, Department of Materials Chemistry, Shinshu University, Nagano, Japan; [2]Center for Energy & Environmental Science, Shinshu University, Nagano, Japan; [3]Center for Energy & Environmental Science, Shinshu University, Nagano, Japan; [4]Shinshu University, Nagano, Japan;
Paper Id: 322

17:35 Break

SESSION: **BatteryMonPM3-R9**

5th Intl. Symp. on Sustainable Secondary Battery Manufacturing and Recycling

Mon Nov, 5 2018 /
Room: **Asian (60/3rd)**

Session Chairs: Hee-Dae **Lim**; Session Monitor: TBA

17:40: [BatteryMonPM313] Keynote
Fracture in anodes for Li-ion and Na-ion batteries
Katerina Aifantis[1] ; [1]University of Florida, Gainesville, United States;
Paper Id: 425

18:05: [BatteryMonPM314]
New Approaches in the Development of Advanced Lithium-sulfur Batteries
Jiazhao Wang[1] ; Xin Liang[2] ; Mohammed Rejaul Kaiser[2] ; Fang Li[2] ; Huakun Liu[2] ; [1]Haoyun66, Wollongong, Australia; [2]Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, Australia;
Paper Id: 82

Tuesday

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **IronTueAM-R1**	**Afonso International Symposium on Advanced Sustainable Iron and Steel Making(6th Intl. Symp. on Advanced Sustainable Iron and Steel Making)**
Tue Nov, 6 2018 / Room: **Mar Azul (50/1st)**	
Session Chairs: Libor **Kraus**; Michael **Potesser**; Session Monitor: TBA	

11:20: [IronTueAM01] Plenary
Microstructure-related Issues for Miniaturized Tensile Tests
Jan Dzugan[1] ; Libor Kraus[1] ; Karel Sperlink[1] ; [1]COMTES FHT Inc., Dobrany, Czech Republic;
Paper Id: 106

11:45: [IronTueAM02] Plenary
Optimization Potentials for Steel Production from the Application of Oxygen Combustion
Michael Potesser[1] ; **Johannes Rauch**[2] ; Davor Spoljaric[2] ; [1]MPOT GmbH / Messer Group GmbH, Gumpoldskirchen, Austria; [2]Messer Group, Gumpoldskirchen, Austria;
Paper Id: 118

12:10: [IronTueAM03] Plenary
Numerical Simulation of Softening Layer Shape with Variable Size of Blast Furnace
Dongjo Lee[1] ; [1]POSCO, Pohang, South Korea;
Paper Id: 71

12:35: [IronTueAM04] Plenary
Reduced Environmental Impact and Increased Energy and Material Recovery in the Ferro-alloy Industry Through Staged Combustion of Flue Gas
Bernd Wittgens[1] ; Torbjørn Pettersen[2] ; Benjamin Ravary[3] ; Edin Myrhaug[4] ; [1]SINTEF, Trondheim, Norway; [2]SINTEF Industry, 7034 Trondheim, Norway; [3]Eramet Norway, Trondheim, Norway; [4]ELKEM AS, Trondheim, Norway;
Paper Id: 54

13:00 LUNCH

SESSION: **IronTuePM1-R1**

Afonso International Symposium on Advanced Sustainable Iron and Steel Making(6th Intl. Symp. on Advanced Sustainable Iron and Steel Making)

Tue Nov, 6 2018 /
Room: **Mar Azul (50/1st)**

Session Chairs: Hemant **Upadhyay**; Shambhu **Nath**; Session Monitor: TBA

14:00: [IronTuePM105]
Importance of Coke Quality and Optimization for Higher Pulverized Coal Injection Rates in Blast Furnace
Hemant Upadhyay[1] ; Deepesh Chandra[2] ; Arvind Bhagat[2] ; [1]Jindal Steel & Power Ltd, Raigarh, India; [2]Jindal Steel & Power Ltd, Raigarh, India;
Paper Id: 172

14:25: [IronTuePM106]
Development and Application of Mathematical Models to Simulate Liquid Phase Accumulation, Drainage, and Heat Transfer in Blast Furnace Hearth
Hemant Upadhyay[1] ; Deepesh Chandra[2] ; Tarun Kumar Kundu[3] ; [1]Jindal Steel & Power Ltd, Raigarh, India; [2]Jindal Steel & Power Ltd, Raigarh, India; [3]Department of Metallurgical and Materials Engg, Kharagpur, India;
Paper Id: 173

14:50: [IronTuePM107]
A Journey Towards Increasing Pulverized Coal Injection and Reduction in Coke Rate at F Blast Furnace - Tata Steel
Shambhu Nath[1] ; [1]Tata Steel, Jamshedpur, India;
Paper Id: 288

15:15: [IronTuePM108]
Operating Line of COREX Process Based on Rist Diagram
C Srishilan[1] ; Anand Vivek[2] ; Ajay Shukla[3] ; [1]IIT MADRAS, Chennai, CHENNAI, India; [2]JADAVPUR UNIVERSITY, KOLKATA, India; [3]IIT Madras, CHENNAI, India;
Paper Id: 369

15:40 Break

SESSION: **ManufacturingTuePM3-R1**
Metal Forming / Metal Removal Processing / Non-Conventional Techniques- II

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Tue Nov, 6 2018 /
Room: **Mar Azul (50/1st)**

Session Chairs: Paata **Kervalishvili**; Session Monitor: TBA

17:40: [ManufacturingTuePM313]
Improving the Efficiency of Machining Through Modifying Carbide Cutting Tips by Pulsed Magnetic Field Processing
Viktor Kovalov[1] ; Yana Vasilchenko[1] ; Maxim Shapovalov[1] ; [1]Donbas State Engineering Academy, Kramatorsk, Ukraine;
Paper Id: 419

18:05: [ManufacturingTuePM314]
Improving the Accuracy of Heavy Lathes
Viktor Kovalov[1] ; Yana Antonenko[2] ; Marina Saenko[1] ; [1]Donbas State Engineering Academy, Kramatorsk, Ukraine; [2], Kramatorsk, Ukraine;
Paper Id: 418

19:30 PM Dinner

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **ElectrochemistryTueAM-R2**

Amatore International Symposium on Electrochemistry for Sustainable Development

Tue Nov, 6 2018 /
Room: **Copacabana B (150/1st)**

Session Chairs: Tsuyoshi **Hoshino**; Session Monitor: TBA

11:20: [ElectrochemistryTueAM01] Invited
Electrochemistry for Sustainable Solar Photovoltaics
Meng Tao[1] ; [1]Arizona State University, Tempe, United States;
Paper Id: 171

11:45: [ElectrochemistryTueAM02]
Nanoscale Electrochemical Imaging for Functional Energy Materials
Akichika Kumatani[1] ; Yasufumi Takahashi[2] ; Tomokazu Matsue[3] ; [1]Tohoku University, Sendai, Japan; [2]Kanazawa University, Kanazawa, Japan; [3]Tohoku University, , Japan;
Paper Id: 405

12:10: [ElectrochemistryTueAM03]
Vitamin Based Redox Active Organic Molecules for Energy Storage
Sherman Lauw[1] ; Raymond Shi[1] ; Bao Yun Foo[1] ; **Richard Webster**[1] ; [1]Nanyang Technological University, Singapore, Singapore;
Paper Id: 220

12:35: [ElectrochemistryTueAM04] Invited
Lithium Recycling from Used Li-ion Batteries using Innovative Electrodialysis with Lithium Ionic conductor
Tsuyoshi Hoshino[1] ; [1]Breeding Functional Materials Development Group, Department of Blanket Systems Research, Rokkasho Fusion Institute, Fusion Energy Research and Development Directorate, National Institutes for Quantum, Rokkasho-mura, Kamikita-gun, Japan;
Paper Id: 100

13:00 LUNCH

SESSION: **ElectrochemistryTuePM1-R2**

Amatore International Symposium on Electrochemistry for Sustainable Development

Tue Nov, 6 2018 /
Room: **Copacabana B (150/1st)**
Session Chairs: Guobao **Xu**; Session Monitor: TBA

14:00: [ElectrochemistryTuePM105]
ECl Color Devices Based on Bipolar Electrode
Jing-juan Xu[1] ; Hong-yuan Chen[1] ; [1]Nanjing University, Nanjing, China;
Paper Id: 73

14:25: [ElectrochemistryTuePM106]
New Materials for Electrochemiluminescent Analysis
Guobao Xu[1] ; [1]State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, China;
Paper Id: 252

14:50: [ElectrochemistryTuePM107]
Nanospectroscopy for Electrochemistry-Electrochemical Tip-enhanced Raman Spectroscopy
Bin Ren[1] ; [1]Xiamen University, Xiamen, China;
Paper Id: 152

15:15: [ElectrochemistryTuePM108]
Highly Sensitive Electrochemical Bioanalysis of Unicellular Samples based on Au@Pt Nanaostructures Modified Diamond Microelectrode Arrays
Xuemei Wang[1] ; Hui Jiang[1] ; Pasquarelli Alberto[2] ; Chunmei Li[1] ; Hang Zhang[1] ; Jun Ruan[1] ; [1]Southeast University, Nanjing, China; [2]Ulm University, Ulm, Germany;
Paper Id: 229

15:40 Break

SESSION: **ElectrochemistryTuePM2-R2**

Amatore International Symposium on Electrochemistry for Sustainable Development

Tue Nov, 6 2018 /
Room: **Copacabana B (150/1st)**

Session Chairs: Lauro **Tatsuo Kubota**; Session Monitor: TBA

15:55: [ElectrochemistryTuePM209] Invited
Oxidative Stress: Can We Reduce Oxidative Stress in Various Diseases?
Haruhiko Inufasa[1] ; [1]Gifu University, Osaka, Japan;
Paper Id: 399

16:20: [ElectrochemistryTuePM210]
Simultaneous Electrochemical Detection of Primary Reactive Oxygen and Nitrogen Species Released by Cell Populations in Integrated Microdevices
Yun Li[1] ; Catherine Sella[1] ; Frederic Lemaitre[1] ; Manon Guille Collignon[1] ; Christian Amatore[2] ; **Laurent Thouin**[1] ; [1]Ecole normale superieure - CNRS, Paris, France; [2]CNRS & PSL, French Academy of Sciences, Paris, France;
Paper Id: 383

16:45: [ElectrochemistryTuePM211]
The Development of Dendrimer-gold Nanocomposite Electrochemical Sensor for the Detection of Lead (II) ion in Water
Kgaogelo Jalda[1] ; Nonhlangabezo Mabuba[2] ; Omotayo Arotiba[2] ; [1], Polokwane, South Africa; [2]University of Johannesburg, Johannesburg, South Africa;
Paper Id: 355

17:10: [ElectrochemistryTuePM212] Invited
Innovative Electrochemical Processes and Reactors for the Treatment of Wastewater
Onofrio Scialdone[1] ; Christian Amatore[2] ; [1], Palermo, Italy; [2]CNRS & PSL, French Academy of Sciences, Paris, France;
Paper Id: 62

17:35 Break

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **MoltenTueAM-R3**

Fehrmann International Symposium on Sustainable Molten Salt and Ionic Liquid Processing (6th Intl. Symp. on Sustainable Molten Salt and Ionic Liquid Processing)

Tue Nov, 6 2018 /
Room: **Bossa (150/3rd)**

Session Chairs: Robin **Rogers**; Session Monitor: TBA

11:20: [MoltenTueAM01]
Application of Ionic Liquids in Oxidative and Acidic Catalysis
Nina Kuznetsova[1] ; Nikolay Adonin[1] ; **Bair Bal'zhinimaev**[1] ; [1]Boreskov Institute of Catalysis, Novosibirsk, Russian Federation;
Paper Id: 165

11:45: [MoltenTueAM02]
Screening of [DCN] and [TF_2N]-based Promising Ionic Liquids for Carbon Dioxide Capture: Solubility and Thermodynamic Modeling
Amr Henni[1] ; Mohamed Zoubeik[1] ; [1]University of Regina, Regina, Canada;
Paper Id: 364

12:10: [MoltenTueAM03]
Ionic Liquid Promoted Synthesis of Aryl Ureas in Pd-catalyzed Oxidative Carbonylation
Anders Riisager[1] ; Nanette Zahrtmann[1] ; Cyril Godard[2] ; Carmen Claver[2] ; Eduardo J. García Suárez[3] ; [1]DTU Chemistry, Kgs. Lyngby, Denmark; [2]Universitat Rovira i Virgili, Tarragona, Spain; [3]Technical Univ of Denmark, Kgs. Lyngby, Denmark;
Paper Id: 245

12:35: [MoltenTueAM04]
Topological Forecast of 4D T-x-y-z Diagram Li,Na,Rb,La||F
Vasily Lutsyk[1] ; Anna Zelenaya[1] ; Maria Parfenova[2] ; [1]Institute of Physical Materials Science SB RAS, Ulan-Ude, Russian Federation; [2]Tomsk State University of Control Systems and Radio-electronics, Tomsk, Russian Federation;
Paper Id: 120

13:00 LUNCH

SESSION: **MoltenTuePM1-R3**

Fehrmann International Symposium on Sustainable Molten Salt and Ionic Liquid Processing (6th Intl. Symp. on Sustainable Molten Salt and Ionic Liquid Processing)

Tue Nov, 6 2018 /
Room: **Bossa (150/3rd)**

Session Chairs: Anja-Verena **Mudring**; Session Monitor: TBA

14:00: [MoltenTuePM105]
Upgrading of Biogas Using Supported Ionic Liquid Phase (SILP) Materials
Leonard Schill[1] ; Rasmus Fehrmann[1] ; Anders Riisager[2] ; [1]DTU Chemistry, Lyngby, Denmark; [2]DTU Chemistry, Kgs. Lyngby, Denmark;
Paper Id: 72

14:25: [MoltenTuePM106]
Synthesis and Catalysis with Ionic Liquids - From Batch to Flow
Katharina Schröder (bica)[1] ; [1]Institute of Applied Synthetic Chemistry, Vienna, Austria;
Paper Id: 352

14:50: [MoltenTuePM107]
Carbon Capture in Molten Salts - Calcium Looping in the Molten State
Espen Olsen[1] ; Nils Rusås Ruud[2] ; Heidi S. Nygård[2] ; [1]Norwegian University of Life Sciences, Ås, Norway; [2]NMBU, Aas, Norway;
Paper Id: 325

15:15: [MoltenTuePM108]
A Computational Model for Dimulating Rare Earth Reduction on Electrowinning Cells
Jose Adilson De Castro[1] ; Marcos De Campos[1] ; [1]UFF - Federal Fluminense University, Volta Redonda, Brazil;
Paper Id: 319

15:40 Break

SESSION: **MoltenTuePM2-R3**

Fehrmann International Symposium on Sustainable Molten Salt and Ionic Liquid Processing (6th Intl. Symp. on Sustainable Molten Salt and Ionic Liquid Processing)

Tue Nov, 6 2018 /
Room: **Bossa (150/3rd)**

Session Chairs: Sheng **Dai**; Session Monitor: TBA

15:55: [MoltenTuePM209] Keynote
Ionic Liquids and their Role in Creating Efficient Emitter Materials for Light Emitting Electrochemical Cells
Anja-verena Mudring[1] ; [1]Stockholm University, Stockholm, Sweden;
Paper Id: 398

16:20: [MoltenTuePM210] Invited
X-ray Photoelectron Spectroscopy of Ionic Liquids – From Half-cell Measurements to In-situ Electrochemical XPS
Annette Foelske Schmitz[1] ; [1]TU Wien, 1060 Vienna, Austria;
Paper Id: 6

16:45: [MoltenTuePM211]
Multi-stabilized Pd-SILCA with Nitrogen-rich Ionic Liquids as a Recyclable Catalyst for Heck Reaction
Nemanja Vucetic[1] ; Jyri-pekka Mikkola[2] ; [1]Åbo Akademi University, Johan Gadolin Process Chemistry Centre, Laboratory of Industrial Chemistry and Reaction Engineering, Turku, Finland; [2]Abo Akademi University, Turku, Finland;
Paper Id: 232

17:10: [MoltenTuePM212] Invited
Materials for the Nuclear Reactors of Generation IV: Polyhedration of the Chloride-Fluoride Reciprocal Systems
Vasily Lutsyk[1] ; Vera Vorob'eva[1] ; Maria Parfenova[2] ; Marina Lamueva[3] ; [1]Institute of Physical Materials Science SB RAS, Ulan-Ude, Russian Federation; [2]Tomsk State University of Control Systems and Radio-electronics, Tomsk, Russian Federation; [3]Institute of Physical Materials Science, Ulan-Ude, Russian Federation;
Paper Id: 96

17:35 Break

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **ManufacturingTueAM-R4**
Non-Ferrous Advanced Materials from Macro- to Nanoscale – I

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Tue Nov, 6 2018 /
Room: **Sao Conrado (50/2nd)**

Session Chairs: Mustafa **Guden**; Session Monitor: TBA

11:20: [ManufacturingTueAM01]
Development, Modeling and Characterization of Shape Memory Alloys and their Utilization in Morphing Structures
Dimitris C. Lagoudas[1] ; [1]Texas A&M University, College Station, United States;
Paper Id: 145

11:45: [ManufacturingTueAM02]
Calorimetric Mechanosensors Consisting of Various Mechanisms: Triboluminescence, Structural Color, and Disassembly of Au Nanoparticles
Mustafa Demir[1] ; Gökhan Topçu[2] ; Ezgi Inci[2] ; Athanasios G. Mamalis[3] ; [1]Izmir Institute of Technology, Urla, Turkey; [2]Izmir Institute of Technology, İzmir, Turkey; [3]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece;
Paper Id: 57

12:10: [ManufacturingTueAM03]
Structure and Optical Properties of Nanocomposite Carbon Films Obtained from Accelerated C60 Ion Flows
Svetlana Rudchenko[1] ; Vladimir Egorovich Pukha[1] ; Vadym V. Starikov[1] ; **Athanasios G. Mamalis**[2] ; Sergiy N. Lavrynenko[3] ; [1]National Technical University - Kharkov Polytechnic Institute, Kharkiv, Ukraine; [2]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece; [3]Kharkov Polytechnic Institute, Kharkov, Ukraine;
Paper Id: 151

12:35: [ManufacturingTueAM04]
Properties of the Composite SnO_2-Ag (Semiconductor Metal) Ceramic Material
Vladimir Kirko[1] ; Sergey Dobrosmislov[2] ; Genadii Nagibin[2] ; [1]Research Institute of Physics and Engineering, Krasnoyarsk, Russian Federation; [2]associate professor, Krasnoyarsk, Russian Federation;
Paper Id: 66

13:00 LUNCH

SESSION: **ManufacturingTuePM1-R4**
Biomechanics / Biomedical engineering

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Tue Nov, 6 2018 / Room: **Sao Conrado (50/2nd)**

Session Chairs: Jeremy **Ramsden**; Session Monitor: TBA

14:00: [ManufacturingTuePM105] Keynote
Glasses for Seeing Beyond the Visible
Jacques Lucas[1] ; [1]University of Rennes, Rennes, France;
Paper Id: 201

14:25: [ManufacturingTuePM106]
Au@Pt Core-Shell Nanoparticles with Nanostructured Dendritic Pt Shells as Solid Contacts in Ion Selective Electrodes
Masoumeh Saber Zaeimian[1] ; Athanasios G. Mamalis[2] ; Xiaoshan Zhu[1] ; [1]University of Nevada, Reno, Reno, United States; [2]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece;
Paper Id: 205

14:50: [ManufacturingTuePM107]
Spherical Depth-sensing Indentation in a Liquid Environment: Toward Cardiac Tissue Characterization
Jean-philippe Jehl[1] ; Richard Kouitat Njiwa[2] ; Pablo Maureira[3] ; [1]Institut Jean Lamour, Nancy, France; [2]Institut Jean Lamour (UMR 7198 CNRS-Uninersite de lorraine), Nancy, France; [3]INSERM U961, Nancy, France;
Paper Id: 185

15:15: [ManufacturingTuePM108]
Perspective Ways for the Development of Endoprosthesis of Human Hip Implants
Sergiy Sheykin[1] ; Athanasios G. Mamalis[2] ; Raul S. Turmanidze[3] ; S. Sohan[4] ; I. Rostotskiy[4] ; Dmitrii Vladimirovich Efrosinin[5] ; [1]Otdel_20, Kyiv, Ukraine; [2]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece; [3]Georgian Technical University, Tbilisi, Georgia; [4]Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kiev, Ukraine; [5]Bakul Institute for Superhard Materials of the NASU, Kiev, Ukraine;
Paper Id: 174

15:40 Break

SESSION: **ManufacturingTuePM2-R4**
High Strain-Rate Phenomena / Treatment under Shock Loading–I

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Tue Nov, 6 2018 / Room: **Sao Conrado (50/2nd)**

Session Chairs: Manos **Maragakis**; Session Monitor: TBA

15:55: [ManufacturingTuePM209] Invited
The Making of UniPore Material Through Explosive Welding Process and the Mechanical Response Under Static and Dynamic Loading
Kazuyuki Hokamoto[1] ; [1]Institute Pulsed Power Science, Kumamoto, Japan;
Paper Id: 7

16:20: [ManufacturingTuePM210]
Preparation of Graphene Nanosheets by Shock Waves
Pengwan Chen[1] ; Xin Gao[1] ; Hao Yin[2] ; Chunxiao Xu[1] ; Qiang Zhou[1] ; [1]Beijing Institute of Technology, Beijing, China; [2]Institute of Systems Engineering, China Academy of Engineering Physics, Mianyang, China;
Paper Id: 159

16:45: [ManufacturingTuePM211] Invited
Relationship Between Hardness and Capillary Action-like Phenomena of Nickel Metal Observed in TiB2+TiN/TiNi/Steel-layered Composites Fabricated by Hot Explosive Welding
Ryuichi Tomoshige[1] ; Seiichiro Ii[2] ; Yasuhiro Morizono[3] ; Kanako Sonoda[1] ; [1]Sojo University, Kumamoto, Japan; [2]National Institute for Materials Science (NIMS), Tsukuba, Japan; [3]National Institute of Technology, Kurume College, Kurume, Japan;
Paper Id: 68

17:10: [ManufacturingTuePM212]
Explosive Forming of Metal Tubes for Heat Exchangers
Andras Szalay[1] ; Athanasios G. Mamalis[2] ; Istvan Zador[1] ; Pal Racz[3] ; Hasebe Toshiaki[1] ; [1]S-Metalltech 98 Materials Research and Development Ltd, Budapest, Hungary; [2]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece; [3]Bay Zoltán Nonprofit Ltd, Budapest, Hungary;
Paper Id: 86

17:35 Break

SESSION: **ManufacturingTuePM3-R4**
Defense / Safety

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Tue Nov, 6 2018 / Room: **Sao Conrado (50/2nd)**

Session Chairs: Kazuyuki **Hokamoto**; Session Monitor: TBA

17:40: [ManufacturingTuePM313]
Modern Protective Systems for Mitigating Explosions
Nikoloz Chikhradze[1] ; Edgar Mataradze[2] ; Theodore Krauthammer[3] ; Mikheil Chikhradze[4] ; [1]G. Tsulukidze Mining Institute, Tbilisi, Georgia; [2]LEPL Grigol Tsulukidze Mining Institute, Tbilisi, Georgia; [3]Director, Center for Infrastructure Protection and Physical Security University of Florida, Geinesville, United States; [4]Georgian Technical University, Tbilisi, Georgia;
Paper Id: 144

18:05: [ManufacturingTuePM314]
Static and Dynamic Compression and Indentation Behavior of Aerated Autoclaved Concrete
Mustafa Sarikaya[1] ; Dogus Zeren[1] ; Burak Akyol[1] ; Taner Kavas[2] ; Ugur Uzgan[3] ; Dogan Soyal[4] ; Mustafa Guden[1] ; [1]İzmir Institute of Technology, İzmir, Turkey; [2]Ayfon Kocatepe University, Ayfonkarahisar, Turkey; [3]AKG Gazbeton, Izmir, Turkey; [4]AKG Gazbeton, İzmir, Turkey;
Paper Id: 113

19:30 PM Dinner

SESSION: **SISAMTueAM-R5**
SPD Nanomaterials

Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Tue Nov, 6 2018 / Room: **Copacabana A (150/1st)**

Session Chairs: Malgorzata **Lewandowska**; Boris **Straumal**; Session Monitor: TBA

11:20: [SISAMTueAM01] Keynote
Plasticity Induced Grain Boundary Migration
Reinhard Pippan[1] ; **Oliver Renk**[2] ; Marlene Kapp[1] ; Karoline Komout[1] ; Pradpita Ghosh[1] ; Anton Hohenwarter[3] ; [1]Austrian Academy of Sciences, Leoben, Austria; [2]Erich Schmid Institut of Materials Science, Austrian Academy of Sciences, Leoben, Austria; [3]Montanuniversitaet Leoben, Leoben, Austria;
Paper Id: 311

11:45: [SISAMTueAM02] Invited
Ultrafine-grained Plates with Enhanced Mechanical Properties, Low Anisotropy and Good Formability
Malgorzata Lewandowska[1] ; Marta Ciemiorek[1] ; Lech Olejnik[1] ; Witold Chrominski[1] ; [1]Warsaw University of Technology, Warsaw, Poland;
Paper Id: 239

12:10: [SISAMTueAM03] Invited
Properties of a Lean Silver Alloy After Equal Channel Angular Pressing and Conventional Post-deformation
Maciej Krystian[1] ; Bernhard Mingler[1] ; Jelena Horky[2] ; Damien Colas[3] ; Frédéric Diologent[4] ; [1]AIT Austrian Institute of Technology GmbH, Wiener Neustadt, Austria; [2]Austrian Institute of Technology, Seibersdorf, Austria; [3]Varinor SA, Delémont, Switzerland; [4]Varinor Sa, Delémont, Switzerland;
Paper Id: 353

12:35: [SISAMTueAM04]
Effect of Equal Channel Angular Pressing on Structure, Texture, and Mechanical Properties of a Magnesium Alloy Containing Rare Earth Elements
Boris Straumal[1] ; Natalia Martynenko[2] ; Elena Lukyanova[2] ; Georgy Raab[3] ; Sergey Dobatkin[4] ; Yuri Estrin[5] ; [1]Institute of Solid State Physics RAS, Chernogolovka, Russian Federation; [2]National University of Science and Technology MISiS, Moscow, Russian Federation; [3]UGATU, Ufa, Russian Federation; [4]NUST MISiS, Moscow, Russian Federation; [5]Monash University, Centre for Advanced Hybrid Materials, Clayton, Australia;
Paper Id: 309

13:00 LUNCH

SESSION: **SISAMTuePM1-R5**
Amorphous Materials

Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Tue Nov, 6 2018 /
Room: **Copacabana A (150/1st)**

Session Chairs: A. Lindsay **Greer**; Maria Dolores **Baró**; Session Monitor: TBA

14:00: [SISAMTuePM105] Keynote
Metallic Glasses: A Range of States Offering Exceptional Mechanical Properties
A. Lindsay Greer[1] ; [1]University of Cambridge, Cambridge, United Kingdom;
Paper Id: 154

14:25: [SISAMTuePM106] Invited
Designing Ductile Bulk Metallic Glasses and Composites for Engineering Applications
Juergen Eckert[1] ; [1]Erich Schmid Institute of Materials Science, Leoben, Austria;
Paper Id: 204

14:50: [SISAMTuePM107] Invited
Rare Earth-containing Multi-component Metallic Glasses
Jean-marie Dubois[1] ; Luka Kelhar[2] ; Saso Sturm[3] ; Spomenka Kobe[4] ; [1]JSI - K7 Dpt for Nanostructured Materials, Ljubljana, Slovenia; [2]JSI - K7 Dpt, Ljubljana, Slovenia; [3]Jozef Stean Institute, Ljubljana, Slovenia; [4]Josef Stefan Institute, Ljubljana, Slovenia;
Paper Id: 143

15:15: [SISAMTuePM108] Invited
Using Femtosecond Pulsed Laser Irradiation (FSPLI) to Magnetically Pattern the Surface of Non-ferromagnetic Amorphous Steel
Maria Dolores Baró[1] ; Huiyan Zhang[2] ; Yuping Feng[3] ; Santiago Surinyach[4] ; Eva Pellicer[5] ; Jordi Sort[5] ; [1]Universitat Autònoma de Barcelona, Cerdanyola del Vallès, Spain; [2]Departament de Fisica, UAB, Bellaterra, Spain; [3]Fac. Ciencies, Bellaterra, Spain; [4]Fac. Ciencies,, Bellaterra, Spain; [5]Dept. Fisica, Bellaterra, Spain;
Paper Id: 362

15:40 Break

SESSION: **SISAMTuePM2-R5**
Computational Simulation of ISAM

Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Tue Nov, 6 2018 /
Room: **Copacabana A (150/1st)**

Session Chairs: Laszlo **Toth**; Adelia **Aquino**; Session Monitor: TBA

15:55: [SISAMTuePM209] Keynote
The Diverse Role of Polycyclic Aromatic Hydrocarbons: Basis for Polyradicaloid Character Leading to New Optoelectronic Devices and Origin for Luminescence in Carbon Nanodots
Hans Lischka[1] ; [1]Tianjin University, Tianjin, China;
Paper Id: 377

16:20: [SISAMTuePM210] Invited
A Computational Study of π-π Stacking Interactions Using High-Level Ab Initio Methods and Density Functional Methods
Adelia Aquino[1] ; [1]Tianjin University, Tianjin, China;
Paper Id: 379

16:45: [SISAMTuePM211] Invited
Insights in the Variations of Deformation Mechanisms in Polycrystals With the Help of Texture Modeling from Macro to Nano Grain Sizes
Laszlo Toth[1] ; [1]Lorraine University, Metz, France;
Paper Id: 308

17:10: [SISAMTuePM212] Invited
On The Computational Design Of Ti- and Fe-Based Advanced Materials For Biomedical Applications
Christina Lekka[1] ; J.j. Guttierez Moreno[2] ; Carla Cutrano[1] ; K Ioannou[1] ; Dimitris Papageorgiou[1] ; Giorgos Evangelakis[1] ; [1]University of Ioannina, Ioannina, Greece; [2]University of Tyndall, Tyndal, Ireland;
Paper Id: 246

17:35 Break

SESSION: **SISAMTuePM3-R5**
ISAM Industrial Applications

Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Tue Nov, 6 2018 /
Room: **Copacabana A (150/1st)**

Session Chairs: Laszlo **Toth**; Adelia **Aquino**; Session Monitor: TBA

17:40: [SISAMTuePM313] Invited
Socioeconomic Pathways and Their Guidance Towards a Renewable Power Generation Dominated Market
Tamer Turna[1] ; [1]TES Energy Consulting, Istanbul, Turkey;
Paper Id: 298

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **AdvancedMaterialsTueAM-R6**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Tue Nov, 6 2018 /
Room: **Guaratiba (60/2nd)**

Session Chairs: Raphael **Semiat**; Alexander **Yarin**; Session Monitor: TBA

11:20: [AdvancedMaterialsTueAM01] Keynote
Environmental and Energy Issues in Water Treatment Processes
Raphael Semiat[1] ; [1]Technion IIT, Haifa, Israel;
Paper Id: 10

11:45: [AdvancedMaterialsTueAM02] Keynote
Self-healing Nano-textured Engineering Vascular Materials
Alexander Yarin[1] ; [1]University of Illinois at Chicago, Chicago, United States;
Paper Id: 14

12:10: [AdvancedMaterialsTueAM03] Keynote
Wear-resistant MAX phases-based Materials of Ti-Al-C System for Electrical Transport
Tetiana Prikhna[1] ; Orest Ostash[2] ; Vladimir Sverdun[3] ; Viktoriya Podhurska[4] ; Fernand Marquis[5] ; Myroslav Karpets[3] ; Semyon Ponomarov[6] ; Alexandra Starostina[3] ; Thierry Cabioc'h[7] ; [1]Institute Superhard Materials, Kiev, Ukraine; [2]Karpenko Physical-Mechanical Institute of the National Academy of Sciences of Ukraine, Lviv, Ukraine; [3]Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kiev, Ukraine; [4]Physico-Mechanical Institute of the National Academy of Sciences of Ukraine, Lviv, Ukraine; [5]San Diego State University, San Diego, United States; [6]Institute of Semiconductor Physics of the National Academy of Sciences of Ukraine, Kiev, Ukraine; [7]Universite de Poitiers, CNRS/Laboratoire PHYMAT, Chasseneuil Futuroscope Cedex, France;
Paper Id: 125

12:35: [AdvancedMaterialsTueAM04]
One-dimensional Nanomaterials for Emerging Energy Storage
Liqiang Mai[1] ; [1]Wuhan University of Technology, Wuhan, China;
Paper Id: 209

13:00 LUNCH

SESSION: **AdvancedMaterialsTuePM1-R6**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Tue Nov, 6 2018 /
Room: **Guaratiba (60/2nd)**

Session Chairs: Barbara **Szpunar**; Jerry **Bernholc**; Session Monitor: TBA

14:00: [AdvancedMaterialsTuePM105] Keynote
Application of State-of-the-Art Calculations in the Design of Accident Tolerant Nuclear Materials
Barbara Szpunar[1] ; [1]University of Saskatchewan, Saskatoon, Canada;
Paper Id: 300

14:25: [AdvancedMaterialsTuePM106] Keynote
Computational Exploration and Design of Nanoscale Sensors and Devices
Jerry Bernholc[1] ; [1]NC State University, Raleigh, United States;
Paper Id: 333

14:50: [AdvancedMaterialsTuePM107]
The Importance of Polymer Topology in Surface Absorption
Giuseppe Pellicane[1] ; Mesfin Tsige[2] ; Francis Gaitho[1] ; [1]University of KwaZulu-Natal, Pietermaritzburg, South Africa; [2]University of Akron, Akron, United States;
Paper Id: 282

15:15: [AdvancedMaterialsTuePM108]
Thermionic Generators with Linear and Non-linear Electron Dispersion Relations: Chances and Limits
York Christian Gerstenmaier[1] ; Gerhard Wachutka[2] ; [1]Institute for Physics of Electrotechnology, Technische Universitaet Muenchen, Munich (Muenchen), Germany; [2]Institute for Physics of Electrotechnology, Technische Universität Muenchen, Munich (Muenchen), Germany;
Paper Id: 248

15:40 Break

SESSION: **AdvancedMaterialsTuePM2-R6**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Tue Nov, 6 2018 /
Room: **Guaratiba (60/2nd)**

Session Chairs: Ephraim **Eliav**; Raphael **Semiat**; Session Monitor: TBA

15:55: [AdvancedMaterialsTuePM209] Keynote
Fluoride Materials for Advanced Technologies, Energy, and Sustainable Issues
Alain Tressaud[1] ; [1]ICMCB-CNRS, University Bordeaux, Pessac, France;
Paper Id: 357

16:20: [AdvancedMaterialsTuePM210] Invited
Nanotechnologies for Removing Contaminants From Water
Raphael Semiat[1] ; [1]Technion IIT, Haifa, Israel;
Paper Id: 11

16:45: [AdvancedMaterialsTuePM211] Keynote
Electronic Structure and Energetic Properties of Relativistic Quantum Dots
Ephraim Eliav[1] ; [1]School of Chemistry, Tel Aviv University, Tel Aviv, Israel;
Paper Id: 161

17:10: [AdvancedMaterialsTuePM212]
Inkjet Printing Nano-functionalization of Energy Materials
Rumen Tomov[1] ; T Mitchell Williams[1] ; Simon Hopkins[2] ; Vasant Kumar[3] ; B Glowacki[1] ; [1]University of Cambridge, Cambridge, United Kingdom; [2]Research Fellow, Geneva, Switzerland; [3]University of Cambridge, Cambridge, United Kingdom ;
Paper Id: 393

17:35 Break

SESSION: **AdvancedMaterialsTuePM3-R6**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Tue Nov, 6 2018 /
Room: **Guaratiba (60/2nd)**

Session Chairs: Pengwan **Chen**; Werner **Urland**; Session Monitor: TBA

17:40: [AdvancedMaterialsTuePM313] Keynote
Synthesis and Densification of Heterogeneous Ultrafine and Nanostructured Materials by High Rate Energy Processes
Fernand Marquis[1] ; Nikoloz Chikhradze[2] ; Tetiana Prikhna[3] ; Pengwan Chen[4] ; Eugene Olevsky[1] ; [1]San Diego State University, San Diego, United States; [2]G. Tsulukidze Mining Institute, Tbilisi, Georgia; [3]Institute Superhard Materials, Kiev, Ukraine; [4]Beijing Institute of Technology, Beijing, China;
Paper Id: 422

18:05: [AdvancedMaterialsTuePM314] Keynote
Shock Induced Elemental Doping of Materials
Pengwan Chen[1] ; Xin Gao[1] ; Chunxiao Xu[1] ; Jianjun Liu[2] ; Xiang Gao[1] ; [1]Beijing Institute of Technology, Beijing, China; [2]State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, Beijing, China;
Paper Id: 421

19:30 Dinner

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **Non-ferrousTueAM-R7**

6th Intl. Symp. on Sustainable Non-ferrous Smelting and Hydro/Electrochemical Processing

Tue Nov, 6 2018 /
Room: **Pontal (50/2nd)**

Session Chairs: Zhigang Zak **Fang**; Vasiliy **Kryukovskiy**; Session Monitor: TBA

11:20: [Non-ferrousTueAM01] Keynote
Hydrogen Assisted Magnesium Reduction of TiO2 (HAMR Process)
Zhigang Zak Fang[1] ; [1]University of Utah, SALT LAKE CITY, United States;
Paper Id: 127

11:45: [Non-ferrousTueAM02]
Alternative Aluminium Production Technologies
Vasiliy Kryukovskiy[1] ; [1], Moscow, Russian Federation;
Paper Id: 128

12:10: [Non-ferrousTueAM03]
High Value-added Products Development From Solid Wastes
Cang Da Qiang[1] ; Lingling Zhang[1] ; Yanbing Zong[1] ; Yu Li[1] ; Xiaoming Liu[1] ; [1]University of Science and Technology Beijing, Beijing, China;
Paper Id: 347

12:35: [Non-ferrousTueAM04]
Pyrometallurgical Recovery of Gold From Refractory Gold Ledge Ores
Sultanbek Kozhakhmetov[1] ; **Sergey Kvyatkovskiy**[1] ; Ruslan Seisembayev[1] ; Anastasiya Semenova[1] ; [1]Institute of Metallurgy and Ore Benefication, Almaty, Kazakhstan;
Paper Id: 84

13:00 LUNCH

SESSION: **MineralTuePM1-R7** **5th Intl. Symp. on Sustainable Mineral Processing**

Tue Nov, 6 2018 / Room: **Pontal (50/2nd)**

Session Chairs: Francisco **Souza**; Paul **Slatter**; Session Monitor: TBA

14:00: [MineralTuePM105]
The Impact Of Sustainable Industrial Practice On Process Suspension Rheology
Paul Slatter[1] ; [1]Sheridan College, Perth, WA, AUSTRALIA., Perth, Australia;
Paper Id: 330

14:25: [MineralTuePM106]
The Challenges of Artisanal Mining of Kaolin in Junco do Serido, Paraiba, Brazil - Social, Environmental Implications and Small Miner's Health
Francisco Souza[1] ; [1]IFPB, Campina Grande, Brazil;
Paper Id: 115

14:50: [MineralTuePM107]
Investigation of Microwave Route for Beneficiation of Low-grade Iron Ore
Nikhil Dhawan[1] ; Veeranjaneyulu Rayapudi[2] ; [1]IIT-Roorkee, roorkee, India; [2]IIT-ROORKEE, ROORKEE, India;
Paper Id: 332

15:15: [MineralTuePM108]
Technology for Production of Ammonium Molybdate from Molybdenite by Using Indigenous Resources
Muhammad Pervaiz Bhatti[1] ; Asima Munawar[2] ; Zohaib Saeed[2] ; [1]Government College University Lahore, Lahore, Pakistan; [2]Government College University Lahore, Lahore, Pakistan;
Paper Id: 166

15:40 Break

SESSION: **MineralTuePM2-R7** — **5th Intl. Symp. on Sustainable Mineral Processing**

Tue Nov, 6 2018 /
Room: **Pontal (50/2nd)**

Session Chairs: Nikhil **Dhawan**; Session Monitor: TBA

15:55: [MineralTuePM209]
Development of an Eco-friendly Tailing Disposal System of Iron Ore Tailing and Study of Issues
Rajan Kumar[1] ; [1], Hyderabad, India;
Paper Id: 351

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **CompositeTueAM-R8** — **6th Intl. Symp. on Composite, Ceramic and Nano Materials Processing, Characterization and Applications**

Tue Nov, 6 2018 /
Room: **Grego (50/3rd)**

Session Chairs: Fakhra **Aziz**; Jean-Charles **Dupin**; Session Monitor: TBA

11:20: [CompositeTueAM01]
The Spectroscopies of Electrons for the Control and the Development of Surface Technologies in the Transport Industry
Jean-charles Dupin[1] ; [1]IPREM UMR5254 CNRS - University of PAU, PAU, France;
Paper Id: 284

11:45: [CompositeTueAM02]
Capacitive Humidity Sensor Based on Polymer Composite Thin Film
Fakhra Aziz[1] ; Nosheen Fatima[2] ; Lih W. Lim[3] ; Khaulah Sulaiman[3] ; [1]University of Peshawar, Peshawar, Pakistan; [2]Capital University of Science and Technology (CUST), Islamabad, Pakistan; [3]University of Malaya, Kuala Lumpur, Malaysia;
Paper Id: 17

12:10: [CompositeTueAM03]
Experimental Investigation of Drilling Carbon Fiber Reinforced Plastic Composite Materials
Kamlesh Phapale[1] ; [1]Bharat Forge Ltd., Pune, India;
Paper Id: 91

12:35: [CompositeTueAM04]
Electron Beam Surface Hardening of AISI H13 Tool Steel
Sandeep Thakare[1] ; [1]Bharat forge limited, pune, India;
Paper Id: 147

13:00 LUNCH

SESSION: **CompositeTuePM1-R8**

6th Intl. Symp. on Composite, Ceramic and Nano Materials Processing, Characterization and Applications

Tue Nov, 6 2018 /
Room: **Grego (50/3rd)**

Session Chairs: Emrah **Ozensoy**; Pragati **Kumar**; Session Monitor: TBA

14:00: [CompositeTuePM105]
Enhanced Precious Metal-free $LaCo_xMn_{1-x}O_3$ Hybrid Perovskite Catalysts with Fine-Tunable Redox Properties
Emrah Ozensoy[1] ; [1]Bilkent University, Ankara, Turkey;
Paper Id: 221

14:25: [CompositeTuePM106]
Nanotwinning in Materials: A Worthy Defect for Superior Properties
Pragati Kumar[1] ; Prateek Uttam[1] ; Nupur Saxena[1] ; [1]Central University of Jammu, Jammu, jammu, India;
Paper Id: 242

SESSION: **MathematicsTuePM2-R8** **3rd Intl. Symp. on Sustainable Mathematics Applications**

Tue Nov, 6 2018 /
Room: **Grego (50/3rd)**

Session Chairs: Peter **Rowlands**; Constantin **Udriste**; Session Monitor: TBA

15:55: [MathematicsTuePM209] Plenary
The "Unreasonable" Effectiveness of Mathematics in Physics
Peter Rowlands[1] ; [1]University of Liverpool, Liverpool, United Kingdom;
Paper Id: 217

16:20: [MathematicsTuePM210] Invited
Multitime Optimal Control in Resource Economics
Constantin Udriste[1] ; [1]University Politehnica of Bucharest, Bucharest, Romania;
Paper Id: 191

16:45: [MathematicsTuePM211]
Reconsideration of Continual and Statistical Mechanics Based on Scalar Representation of Deformation
Valeriy Ryabov[1] ; [1]Department of Nuclear Technology, National Research Centre, Obninsk, Russian Federation;
Paper Id: 175

17:10: [MathematicsTuePM212]
Steady Biomagnetic Flow Along a Nonlinearly Stretching Surface with Magnetic Dipole
Ferdows Mohammad[1] ; Maria Mahbub[2] ; E.e. Tzirtzilakis[3] ; [1], Dhaka, Bangladesh; [2]M.SC stdent, dhaka, Bangladesh; [3]Professor, Patras, Greece;
Paper Id: 354

17:35 Break

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **BatteryTueAM-R9**	**5th Intl. Symp. on Sustainable Secondary Battery Manufacturing and Recycling**
Tue Nov, 6 2018 / Room: **Asian (60/3rd)**	
Session Chairs: TBA Session Monitor: TBA	

11:20: [BatteryTueAM01] Invited
Novel Electrode Materials as Anodes for High-Performance Na-ion Batteries
Ghulam Ali[1] ; [1]Korea Institute of Science and Technology (KIST), SEONGBUK-GU, South Korea;
Paper Id: 157

11:45: [BatteryTueAM02]
Hydrometallurgically Generated Nanostructured Lead(II) Oxide from discarded Lead-Acid Batteries: From Laboratory to Pre-Pilot Scale-up
Robert Liu[1] ; Miles Freeman[1] ; Johdie Harris[1] ; Steve Andrew[1] ; Spencer Lowe[1] ; Athan Fox[1] ; Vasant Kumar[2] ; Vimalnath Selvaraj[3] ; Marcel Yiao[3] ; [1]Aurelius Environmental, Dudley, United Kingdom; [2]University of Cambridge, Cambridge, United Kingdom ; [3]University of Cambridge, Cambridge, United Kingdom;
Paper Id: 429

SESSION: **EnergyTuePM1-R9**	**5th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, and storage for all energy production technologies; Energy conservation**
Tue Nov, 6 2018 / Room: **Asian (60/3rd)**	
Session Chairs: Manfred **Mauntz**; Harold **Dodds**; Session Monitor: TBA	

14:00: [EnergyTuePM105] Plenary
Electricity Production Choices and Consequences - 2018 Update
Harold Dodds[1] ; [1]University of Tennessee, Knoxville, United States;
Paper Id: 163

14:25: [EnergyTuePM106] Keynote
Deep Online Analysis of Dielectric Parameters for Lubricants and Insulation Oils: Identification of Critical Operation Conditions of Gearboxes and HV Transformers for Live Time Enhancement
Manfred Mauntz[1] ; Jorn Peuser[1] ; [1]cmc Instruments GmbH, Eschborn, Germany;
Paper Id: 112

14:50: [EnergyTuePM107] Invited
Microstructural Design in Hydrogen Fuel Storage
Jerzy Szpunar[1] ; [1]University of Saskatchewan, Saskatoon, Canada;
Paper Id: 366

15:15: [EnergyTuePM108] Invited
Some of the Physical Contents of Thermodynamic Inequalities Leading to Nonequilibrium Thermodynamics and the Fifth Law of Thermodynamics
Anil A. Bhalekar[1] ; [1]R. T. M. Nagpur University,, NAGPUR, India;
Paper Id: 78

15:40 Break

SESSION: **EnergyTuePM2-R9**

5th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, and storage for all energy production technologies; Energy conservation

Tue Nov, 6 2018 /
Room: **Asian (60/3rd)**

Session Chairs: Peter **Wasserscheid**; Meng **Tao**; Session Monitor: TBA

15:55: [EnergyTuePM209] Keynote
Process Intensification in Biorefineries – the Way to High Added Value Products
Ludo Diels[1] ; [1]VITO/UA, Mol, Belgium;
Paper Id: 314

16:20: [EnergyTuePM210] Invited
Terawatt Solar Photovoltaics: Roadblocks and Opportunities
Meng Tao[1] ; [1]Arizona State University, Tempe, United States;
Paper Id: 146

16:45: [EnergyTuePM211]
Recyclability of Heterogeneous Palladium Catalysts for the Dehydrogenation of Aqueous Formic Acid
Axel Kosider[1] ; Patrick Preuster[2] ; Andreas Boesmann[3] ; Peter Wasserscheid[4] ; [1], Erlangen, Germany; [2]Forschungszentrum Jülich GmbH Helmholtz Institute Erlangen-Nürnberg for Renewable Energy, Erlangen, Germany; [3]Friedrich-Alexander-University Erlangen-Nurnberg Lehrstuhl fur Chemische Reaktionstechnik, Erlangen, Germany; [4]Friedrich-Alexander-Universitat, Erlangen, Germany;
Paper Id: 237

17:10: [EnergyTuePM212]
Utilization of Green Cement (CSA) with CFBC Coal Power Plant Byproducts for 3D Printing Construction Materials for Sustainable Society
Jiwhan Ahn[1] ; Thriveni Thenepalli[2] ; Ramakrishna Chilakala[3] ; [1]KIGAM (Korea Institute of Geoscience and Mineral Resources), Daejeon, Republic of South Korea; [2]hanil Cement Co Ltd, Daejeon, South Korea; [3]Hanil Cement Co Ltd.,, Daejeon, South Korea;
Paper Id: 367

17:35 Break

Wednesday

08:15 AM - 10:30 PM **SUMMIT PLENARY**
10:30 AM Break

SESSION: **ManufacturingWedAM-R1**
High Strain-Rate Phenomena / Treatment under Shock Loading- II

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Wed Nov, 7 2018 /
Room: **Mar Azul (50/1st)**

Session Chairs: Ryuichi **Tomoshige**; Session Monitor: TBA

11:20: [ManufacturingWedAM01] Invited
Explosion Systems with Inert High Modulus Components: Unexpected Phenomena and Opportunities
Igor Balagansky[1] ; [1]Novosibirsk State Technical University, Movosibirsk, Russian Federation;
Paper Id: 33

11:45: [ManufacturingWedAM02]
On Ballistics of Damaging Fragmentation Elements
Aram Baghiyan[1] ; [1]Improvis LLC, Armenia, Yerevan, Armenia;
Paper Id: 85

12:10: [ManufacturingWedAM03]
Study of Bonding Plates in a Fine-mesh Objects Manufactured by Selective Laser Melting of a Steel Powder
Anton Zhukov[1] ; Boris Barakhtin[1] ; Pavel Kuznetcov[1] ; [1]NRC "Kurchatov Institute" - CRISM "Prometey", Saint-Petersburg, Russian Federation;
Paper Id: 331

12:35: [ManufacturingWedAM04]
Plasmon Spectroscopy of the Transition Metal Films Surface
Sergii Sidorenko[1] ; M.a. Vasylyev[2] ; S.m. Voloshko[1] ; V.v. Yanchuk[1] ; O.i. Kruglov[1] ; [1]Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine; [2]G.V. Kurdyumov Institute for Metal Physics, Kyiv, Ukraine;
Paper Id: 177

13:00 LUNCH

SESSION: **ManufacturingWedPM1-R1**
Non-Ferrous Advanced Materials from Macro- to Nanoscale - II

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Wed Nov, 7 2018 /
Room: **Mar Azul (50/1st)**

Session Chairs: Tahir **Cagin**; Session Monitor: TBA

14:00: [ManufacturingWedPM105]
Nanaocomposites Based on Graphene/Polymer for 3D Printers
Natia Jalagonia[1] ; Nino Darakhvelidze[2] ; Avtandil Sichinava[2] ; Ekaterine Sanaia[2] ; Marcello Casa[3] ; Leila Kalatozishvili[2] ; [1]Ilia Vekua Sokhumi Institute of Physics and Technology, Tbilisi, Georgia; [2], Tbilisi, Georgia; [3], Salerno, Italy;
Paper Id: 342

14:25: [ManufacturingWedPM106]
Numerical Investigation of a Nonsmooth Rotor-stator System Considering a Shape Memory Alloy Coated Stator
Alberto Paiva[1] ; Rodrigo Veronese Moreira[1] ; Alex Brandão[2] ; [1], Volta Redonda, Brazil; [2]UFF, Volta Redonda, Brazil;
Paper Id: 356

14:50: [ManufacturingWedPM107]
The Influence of Aging Treatments on a Ti-Ni 50.7 at. % Mechanical Spring
Hugo De Souza Oliveira[1] ; Henrique Alves Bandeira[2] ; Aline Souza De Paula[1] ; [1]University of Brasilia, Brasilia, Brazil; [2]University of Brasilia, Brasília, Brazil;
Paper Id: 363

15:15: [ManufacturingWedPM108]
Modelling Shape Memory Effect in Hybrid Composite
Lucas Vignoli[1] ; Marcelo Amorim Savi[2] ; [1]Federal University of Rio de Janeiro, São Gonçalo, Brazil; [2]Federal University of Rio de Janeiro, RIO DE JANEIR0, Brazil;
Paper Id: 360

15:40 Break

SESSION: **ManufacturingWedPM2-R1**
Non-Ferrous Advanced Materials from Macro- to Nanoscale - III

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Wed Nov, 7 2018 /
Room: **Mar Azul (50/1st)**

Session Chairs: Tatsuo **Sawada**; Session Monitor: TBA

15:55: [ManufacturingWedPM209]
Nanostructured Austempered Ductile Cast Iron (ADI)
Susil Putatunda[1] ; Saranya Pannerselvam[1] ; [1]Wayne State University, Detroit, United States;
Paper Id: 315

16:20: [ManufacturingWedPM210]
Damage Modeling of Shape Memory Alloys
Vanderson Marcio Dornelas[1] ; Sergio Almeida Oliveira[2] ; Marcelo Amorim Savi[3] ; [1]Federal University of Rio de Janeiro, RIO DE JANEIRO, Brazil; [2]Centro Federal de Educação Tecnológica Celso Suckow da Fonseca (CEFET/RJ), RIO DE JANEIRO, Brazil; [3]Federal University of Rio de Janeiro, RIO DE JANEIR0, Brazil;
Paper Id: 361

16:45: [ManufacturingWedPM211]
Chemical Transformation of Carbon Nanostructures and its Use in Nanocomposites
Guram Bokuchava[1] ; Tinatin Kuchukhidze[2] ; Tamari Archuadze[3] ; Ekaterine Sanaia[2] ; **Natia Jalagonia**[4] ; [1]Ilia Vekua Sukhumi Institute of Physics and Technology, Tbilisi, Georgia; [2], Tbilisi, Georgia; [3]Ilia Vekua Institute of Physics and technology, Tbilisi, Georgia; [4]Ilia Vekua Sokhumi Institute of Physics and Technology, Tbilisi, Georgia;
Paper Id: 341

17:10: [ManufacturingWedPM212]
Maxwell-Boltzmann Energetics-enabled Design of Ball Milled Reactive Fractal Materials
Haris Doumanidis[1] ; [1]Nazarbayev University, Astana, Kazakhstan;
Paper Id: 53

17:35 Break

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **ElectrochemistryWedAM-R2**

Amatore International Symposium on Electrochemistry for Sustainable Development

Wed Nov, 7 2018 /
Room: **Copacabana B (150/1st)**

Session Chairs: Meng **Tao**; Session Monitor: TBA

11:20: [ElectrochemistryWedAM01]
Cyclic Voltammetry on Nanoelectrode and Nanostructured Electrode
Dongping Zhan[1] ; Zhongqun Tian[2] ; [1]Department of Chemistry, Xiamen University, Xiamen, China; [2]Department of Chemistry, Xiamen Uinversity, Xiamen, China;
Paper Id: 160

11:45: [ElectrochemistryWedAM02]
Performance of Lyotropic Liquid Crystal-based Photoelectrochemical Capacitors for Solar-to-Electrical Energy Conversion
Jay Deep Wadhawan[1] ; [1]The University of Hull, Kingston-upon-Hull, United Kingdom;
Paper Id: 410

12:10: [ElectrochemistryWedAM03] Invited
Actual Problems of the Electrochemistry of Metal Complexes - Fundamentals and Applications: Part 1
Arvydas Survila[1] ; [1]Center for Physical Sciences and Technology, Vilnius, Lithuania;
Paper Id: 195

12:35: [ElectrochemistryWedAM04] Invited
Actual Problems of the Electrochemistry of Metal Complexes - Fundamentals and Applications: Part 2
Arvydas Survila[1] ; [1]Center for Physical Sciences and Technology, Vilnius, Lithuania;
Paper Id: 196

13:00 LUNCH

SESSION: **ElectrochemistryWedPM1-R2**

Amatore International Symposium on Electrochemistry for Sustainable Development

Wed Nov, 7 2018 /
Room: **Copacabana B (150/1st)**

Session Chairs: Dongping **Zhan**; Session Monitor: TBA

14:00: [ElectrochemistryWedPM105]
Electrochemical Behavior of Boron-doped Synthetic Diamond Compacts - A New Electrode Material
Yuri Pleskov[1] ; Marina Krotova[2] ; Eugeniy Ekimov[3] ; [1]Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences, Moscow, Russian Federation; [2]1FRUMKIN INSTITUTE OF PHYSICAL CHEMISTRY AND ELECTROCHEMISTRY, Moscow, Russian Federation; [3]INSTITUTE FOR HIGH PRESSURE PHYSICS, Moscow, Russian Federation;
Paper Id: 81

14:25: [ElectrochemistryWedPM106]
3D Printing Electrodes for Electrochemical Energy Storage and Conversion
Marcus Worsley[1] ; [1]Lawrence Livermore National Laboratory, Livermore, United States;
Paper Id: 316

14:50: [ElectrochemistryWedPM107]
Influence of the Cobalt and Iron Doping on the Platinum-free Carbon-based Electrocatalysts for Oxygen Reduction Reaction Properties
Tatiana Lastovina[1] ; Yulia Pimonova[1] ; Andriy Budnyk[1] ; [1]Southern Federal University, Rostov-on-Don, Russian Federation;
Paper Id: 265

15:15: [ElectrochemistryWedPM108]
Electrochemical Impedance Analysis of Oxygen Reduction Reaction Kinetics in HTPEMFCs
Panagiotis Giotakos[1] ; Stylianos G. Neophytides[2] ; [1]FORTH ICE-HT,University of Patras Chemical Engineering Dpt, Patras, Greece; [2]FORTH ICE-HT, PATRAS, Greece;
Paper Id: 396

15:40 Break

SESSION: **ElectrochemistryWedPM2-R2**

Amatore International Symposium on Electrochemistry for Sustainable Development

Wed Nov, 7 2018 /
Room: **Copacabana B (150/1st)**

Session Chairs: Yuri **Pleskov**; Session Monitor: TBA

15:55: [ElectrochemistryWedPM209] Invited
Electroless Metal Deposition Using Multivalent Metal Ions as Reducing Agents
Eugenijus Norkus[1] ; [1]Center of Physical Sciences and Technology, Vilnius, Lithuania;
Paper Id: 136

16:20: [ElectrochemistryWedPM210]
Highly Regio and Enantioselective Synthesis of Functionalized Dihydropyridines and One-Pot Synthesis of Pyridines Triggered by Heck Coupling of Monocyclopropanated Heterocycles
Julietta Yedoyan[1] ; [1]University of Regensburg, Regensburg, Germany;
Paper Id: 350

16:45: [ElectrochemistryWedPM211]
Membrane Electrolysis as a New Method for Lithium Recovery From Brines
Victoria Flexer[1] ; Noelia Palacios[1] ; Cesar Diaz Nieto[2] ; Korneel Rabaey[3] ; [1]Centro de Investigación y Desarrollo en Materiales Avanzados y Almacenamiento de Energía de Jujuy-CIDMEJu, Palpalá, Argentina; [2]Centro de Investigacion y Desarrollo en Materiales Avanzados y Almacenamiento de Energia de Jujuy-CIDMEJu, Palpalá, Argentina; [3]CMET, Ghent University, Gent, Belgium;
Paper Id: 250

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **MoltenWedAM-R3**

Fehrmann International Symposium on Sustainable Molten Salt and Ionic Liquid Processing (6th Intl. Symp. on Sustainable Molten Salt and Ionic Liquid Processing)

Wed Nov, 7 2018 /
Room: **Bossa (150/3rd)**

Session Chairs: Rasmus **Fehrmann**; Session Monitor: TBA

11:20: [MoltenWedAM01] Invited
Homogeneous Catalysis for Sustainable Chemistry
Martin Nielsen[1] ; [1]Technical University of Denmark, Kgs. Lyngby, Denmark;
Paper Id: 137

11:45: [MoltenWedAM02]
How to Predict Physico-chemical Properties from MD Simulations
Christian Schröder[1] ; [1]University of Vienna, Vienna, Austria;
Paper Id: 304

SESSION: **ManufacturingWedPM1-R3**
Specific Applications to Bioengineering / Energy / Materials

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Wed Nov, 7 2018 /
Room: **Bossa (150/3rd)**

Session Chairs: Sesh **Commuri**; Session Monitor: TBA

14:00: [ManufacturingWedPM105]
A Novel Approach to Methods and Tools of Optical Spectroscopy of Viruses
Paata Kervalishvili[1] ; [1]Georgian Technical University, Tbilisi, Georgia;
Paper Id: 93

14:25: [ManufacturingWedPM106]
Identification of a Peptide that can Enhance Genotoxic Sensitivity Through Cellular Redistribution of Chk1 Protein
Kwang Seok Kim[1] ; Sang Jun Park[1] ; Chun-ho Kim[1] ; [1]KIRAMS, Seoul, South Korea;
Paper Id: 414

14:50: [ManufacturingWedPM107]
Nano Thermometry: Origin, Evolution, and Emergence
Pragati Kumar[1] ; Nupur Saxena[1] ; Tania Kalsi[1] ; [1]Central University of Jammu, Jammu, jammu, India;
Paper Id: 247

15:15: [ManufacturingWedPM108]
Synthesis of Fe-Al Alloys by a Novel Reactive Infiltration Method
Srdjan Milenkovic[1] ; [1]IMDEA Materials Institute, Getafe, Spain;
Paper Id: 244

15:40 Break

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **ManufacturingWedAM-R4**
Transport / Crashworthiness of Vehicles: Passive and Active Safety

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Wed Nov, 7 2018 /
Room: **Sao Conrado (50/2nd)**

Session Chairs: Clive **Chirwa**; Session Monitor: TBA

11:20: [ManufacturingWedAM01] Keynote
Assessment of System Failure in Compatibility of Autonomous Vehicles With Vulnerable Road Users Vindicating Passive Safety Technology
Clive Chirwa[1] ; [1]PPA Group, Deeside, United Kingdom;
Paper Id: 149

11:45: [ManufacturingWedAM02] Keynote
A Composite Nanostructured Material Based on Alumina for Use in an Airocraft Gas Turbine Engine
Athanasios G. Mamalis[1] ; Sergiy N. Lavrynenko[2] ; **Edwin Gevorkyan**[3] ; Vasily Dutka[4] ; Maxim Kislitsa[5] ; [1]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece; [2]Kharkov Polytechnic Institute, Kharkov, Ukraine; [3]Cermet-Ukraine Ltd. Science and Production Company, Kharkiv, Ukraine; [4]Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kiev, Ukraine; [5]Ukrainian State University of Railway Transport, Kharkiv, Ukraine;
Paper Id: 218

12:10: [ManufacturingWedAM03]
Challenges in Engineering Devices that Promote Natural Gait in Amputees
Sesh Commuri[1] ; Bhanu Prasad Kotamraju[2] ; [1]University of Nevada, Reno, Reno, United States; [2]University of Oklahoma, Norman, United States;
Paper Id: 266

12:35: [ManufacturingWedAM04]
Magnetic Permeability Measurement Device Based on Hall Effect
Spyridon Angelopoulos[1] ; Giorgios Banis[1] ; Xenia Vourna[1] ; Aphrodite Ktena[2] ; Panagiotis Tsarabaris[1] ; **Evangelos Hristoforou**[1] ; Athanasios G. Mamalis[3] ; [1]National TU of Athens, Athens, Greece; [2]TEI of Chalkida, Chalcis, Greece; [3]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece;
Paper Id: 296

13:00 LUNCH

SESSION: **ManufacturingWedPM1-R4**
Energy

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Wed Nov, 7 2018 /
Room: **Sao Conrado (50/2nd)**
Session Chairs: Nikoloz **Chikhradze**; Session Monitor: TBA

14:00: [ManufacturingWedPM105]
New Designs of Rotors with Variable Geometry Parameters in Dynamics and Their Effective Use in Aviation and Wind Energy
Raul S. Turmanidze[1] ; Paata Kervalishvili[1] ; Giorgi Popxadze[1] ; [1]Georgian Technical University, Tbilisi, Georgia;
Paper Id: 162

14:25: [ManufacturingWedPM106]
Structure and Properties of MgB2- and MT-YBaCuO-based Materials Manufactured Under Pressure
Tetiana Prikhna[1] ; Michael Eisterer[2] ; Matt Rindfleisch[3] ; Athanasios G. Mamalis[4] ; Michael Tomsic[3] ; Vitaliy Romaka[5] ; Semyon Ponomarov[6] ; [1]Institute Superhard Materials, Kiev, Ukraine; [2]Atominstitut, Technische Universität Wien, Vienna, Austria; [3]Hyper Tech Research, Inc., Columbus, United States; [4]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece; [5]Lviv Polytechnic National University, Lviv, Ukraine; [6]Institute of Semiconductor Physics of the National Academy of Sciences of Ukraine, Kiev, Ukraine;
Paper Id: 121

14:50: [ManufacturingWedPM107]
ENERGY CLOUD Service and TOMONI - Holistic Solutions for Energy Intensive Industries
Emmanuel Kakaras[1] ; Michalis Agraniotis[1] ; Christian Bergins[1] ; Torsten Buddenberg[1] ; [1]Mitsubishi Hitachi Power Systems Europe GmbH, Duisburg, Germany;
Paper Id: 80

15:15: [ManufacturingWedPM108]
A New Ruthenium(II) Photosensitizer With Bipyridines Containing Electron Donor/Withdrawing Groups
Fernando Federico Salomón[1] ; Mauricio Cattaneo[2] ; Néstor Katz[3] ; [1]INQUINOA, San Miguel de Tucumán, Argentina; [2]INQUINOA, San Miguel de Tucuman, Argentina; [3]Professor, San Miguel de Tucuman, Argentina;
Paper Id: 90

15:40 Break

SESSION: **ManufacturingWedPM2-R4**
Environmental Aspects / Impact on Climate Change

Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications

Wed Nov, 7 2018 /
Room: **Sao Conrado (50/2nd)**

Session Chairs: Emmanuel **Kakaras**; Session Monitor: TBA

15:55: [ManufacturingWedPM209] Invited
Smart Cities Under Electric Energy Trends: From Autonomous Building Directive to Prosumer Target
Nikolaos T. Athanassoulis[1] ; Aggelos Tsakanikas[1] ; Antonios G. Kladas[2] ; [1]Laboratory of Industrial and Energy Economics, NTUA, Athens, Greece; [2]NTUA, Athens, Greece;
Paper Id: 51

16:20: [ManufacturingWedPM210]
DFT Insights into the Role of Relative Positions of Fe and N Dopants on the Structure and Properties of TiO_2
Sahar Ramin Gul[1] ; **Matiullah Khan**[2] ; Zeng Yi[3] ; Bo Wu[1] ; Athanasios G. Mamalis[4] ; [1]Multiscale Computational Materials Facility, College of Materials Science and Engineering, Fuzhou University, Fuzhou, China; [2]Kohat University of Science and Technology, Kohat, Pakistan; [3]State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, China; [4]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece;
Paper Id: 32

16:45: [ManufacturingWedPM211]
Reduction of Transport Impact on Air Quality due to New Conception of Hydrogen Storage
Tetiana Prikhna[1] ; Mykola Monastyrov[2] ; Petro Talanchuk[3] ; Athanasios G. Mamalis[4] ; Fernand Marquis[5] ; Bernd Halbedel[6] ; [1]Institute Superhard Materials, Kiev, Ukraine; [2]Open International University of Human Development Ukraine, Kiev, Ukraine; [3]Open International University of Human Development Ukraine, Kyiv, Ukraine; [4]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece; [5]San Diego State University, San Diego, United States; [6]Technische Universitat Ilmenau, Ilmenau, Germany;
Paper Id: 140

17:10: [ManufacturingWedPM212]
Stroboscopic Method of Fluorescence Analyses of Optically Dense Media
Nugzar Gomidze[1] ; Izolda Jabnidze[1] ; Zhuzhuna Diasamidze[1] ; Lali Kalandadze[2] ; Omar Nakashidze[1] ; Kakha Makharadze[1] ; Miranda Khajishvili[1] ; Zebur Surmanidze[1] ; [1]Batumi Shota Rustaveli State University, Batumi, Georgia; [2]Batumi Shota Rustaveli State University, Batumi, Georgia;
Paper Id: 275

17:35 Break

SESSION: **SISAMWedAM-R5**
Nano-Analytic Methods

Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Wed Nov, 7 2018 /
Room: **Copacabana A (150/1st)**

Session Chairs: Erhard **Schafler**; Golta **Khatibi**; Session Monitor: TBA

11:20: [SISAMWedAM01] Keynote
X-ray and Neutron Diffraction for Characterizing Microstructure
Tamas Ungar[1] ; [1]Eötvös Loránd University, Manchester, United Kingdom;
Paper Id: 193

11:45: [SISAMWedAM02] Invited
In-situ X-ray Synchrotron Profile Analysis during High Pressure Torsion Deformation
Erhard Schafler[1] ; Michael Kerber[1] ; Florian Spieckermann[2] ; [1]Faculty of Physics, University of Vienna, Vienna, Austria; [2]University of Leoben, Leoben, Austria;
Paper Id: 241

12:10: [SISAMWedAM03] Invited
Liquid Environment Spherical Depth Sensing Indentation: Toward the Mechanical Characterization of Living Tissue
Jean-philippe Jehl[1] ; Richard Kouitat Njiwa[2] ; Pablo Maureira[3] ; [1]Institut Jean Lamour, Nancy, France; [2]Institut Jean Lamour (UMR 7198 CNRS-Uninersite de lorraine), Nancy, France; [3]INSERM U961, Nancy, France;
Paper Id: 211

12:35: [SISAMWedAM04] Invited
Lifetime and Reliability of Small-scaled Multilayered Structures
Golta Khatibi[1] ; Bernhard Czerny[2] ; Thomas Walter[2] ; Agnieszka Betzwar[2] ; Martin Lederer[2] ; [1]TUWien, Institute for Chemical Technologies and Analytics, Vienna, Austria; [2]TU Wien, Vienna, Austria;
Paper Id: 407

13:00 LUNCH

SESSION: **SISAMWedPM1-R5**
Functional Materials

Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Wed Nov, 7 2018 /
Room: **Copacabana A (150/1st)**

Session Chairs: Ernst **Bauer**; Gerda **Rogl**; Session Monitor: TBA

14:00: [SISAMWedPM105] Keynote
Spinodal Decomposition in High-Entropy Half-Heusler Thermoelectrics with High ZT~1.5
Peter Rogl[1] ; [1]University of Vienna, Faculty of Chemistry, Wien, Austria;
Paper Id: 189

14:25: [SISAMWedPM106] Invited
Bulk and Thin-film Stoichiometric and Off-stoichiometric Full Heusler Thermoelectric Systems Based on Fe_2VA1
Ernst Bauer[1] ; Bernhard Hinterleitner[2] ; Michael Poneder[2] ; Christoph Eisenmenger[2] ; Johannes Rehak[2] ; Rene Moser[2] ; Raimund Podloucky[3] ; Takao Mori[4] ; Xing-qiu Chen[5] ; [1]Technische Universität Wien, Vienna, Austria; [2]Universität Wien, Vienna, Austria; [3]Universität Wien, Wien, Austria; [4]NIMS Tsukuba, Tsukuba, Japan; [5]NIMS Tsukuba, Shenyang, China;
Paper Id: 226

14:50: [SISAMWedPM107] Invited
Severe Plastic Deformation via High Pressure Torsion in Thermoelectrics
Gerda Rogl[1] ; Peter Rogl[2] ; Ernst Bauer[3] ; Michael J. Zehetbauer[4] ; [1]Christian Doppler Laboratory for Thermoelectricity, Wien, Austria; [2]University of Vienna, Faculty of Chemistry, Wien, Austria; [3]Technische Universität Wien, Vienna, Austria; [4]University of Vienna, Faculty of Physics, Wien, Austria;
Paper Id: 188

15:15: [SISAMWedPM108] Invited
Advanced Mechanical Processing of ZK60 and ZK60 + Mm Alloys for Hydrogen Storage Applications
Daniel Rodrigo Leiva[1] ; Erenilton Pereira Silva[2] ; Juliano Soyama[3] ; Haroldo Cavalcanti Pinto[4] ; Claudio Shyinti Kiminami[5] ; Tomaz Toshimi Ishikawa[2] ; Walter Jose Botta[5] ; [1]Departamento de Engenharia de Materiais, Universidade Federal de São Carlos, São Carlos, Brazil; [2]Departamento de Engenharia de Materiais, Universidade Federal de São Carlos, São Carlos, Brazil; [3]Faculdade de Engenharia Mecânica, Universidade Estadual de Campinas, Campinas, Brazil; [4]Departamento de Engenharia de Materiais, Escola de Engenharia de São Carlos, Universidade de São Paulo, São Carlos, Brazil; [5]UFSCar (Federal University of São Carlos), São Carlos, Brazil;
Paper Id: 409

15:40 Break

SESSION: **SISAMWedPM2-R5**
Functional Materials

Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Wed Nov, 7 2018 /
Room: **Copacabana A (150/1st)**

Session Chairs: Spomenka **Kobe**; João Paulo **Sinnecker**; Session Monitor: TBA

15:55: [SISAMWedPM209] Keynote
Magnetism in Micro and Nanostructures: Magnetic Recording and Magnonics
João Paulo Sinnecker[1] ; Elis Helena De Campos Pinto Sinnecker[2] ; Danilo Froes Batista[3] ; [1]Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil; [2]Instituto de Fisica, UFRJ, Rio de Janeiro, Brazil; [3]Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil;
Paper Id: 381

16:20: [SISAMWedPM210] Invited
Magnetostriction of Current Fe-based Alloys: An Overview
Cristina Bormio Nunes[1] ; Guilherme O. Fulop[2] ; Mateus B. S. Dias[2] ; Fabio M. Cardoso[2] ; [1]Universidade de São Paulo, Escola de Engenharia de Lorena, Lorena, SP, Brasil, Lorena, Brazil; [2]Universidade de Sao Paulo, Escola de Engenharia de Lorena, Lorena, SP, Brasil, Lorena, Brazil;
Paper Id: 368

16:45: [SISAMWedPM211] Keynote
Magnetic Materials - Physics and Future Aspects
Roland Groessinger[1] ; [1]Vienna University of Technology, Faculty of Physics, Wien, Austria;
Paper Id: 274

17:10: [SISAMWedPM212] Invited
Novel Multicomponent Magnets Using Less Critical Raw Materials for Sustainable Use
Tomaž Tomše[1] ; Jean-marie Dubois[2] ; **Spomenka Kobe**[3] ; [1]Jožef Stefan Institute, Ljubljana, Slovenia; [2]Institut Jean Lamour, Nancy, France; [3]Josef Stefan Institute, Ljubljana, Slovenia;
Paper Id: 306

17:35 Break

SESSION: **SISAMWedPM3-R5**
Functional Materials

Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))

Wed Nov, 7 2018 /
Room: **Copacabana A (150/1st)**

Session Chairs: Spomenka **Kobe**; João Paulo **Sinnecker**; Session Monitor: TBA

17:40: [SISAMWedPM313] Invited
Novel Biocompatible Ni- and Cu-free Ti-based Amorphous Alloys: Thermal Stability, Corrosion Resistance and Apatite-forming Ability
Mariana Calin[1] ; Somayeh Abdi[1] ; Juergen Eckert[2] ; Annett Gebert[1] ; [1]IFW Dresden, Dresden, Germany; [2]Erich Schmid Institute of Materials Science, Leoben, Austria;
Paper Id: 30

18:05: [SISAMWedPM314]
Optimization of Mechanical and Corrosion Properties of Biodegradable Mg-Zn-Ca Alloys by SPD-Processing and Additional Heat Treatment
Michael J. Zehetbauer[1] ; Andrea Ojdanic[1] ; Erhard Schafler[1] ; Jelena Horky[2] ; Bernhard Mingler[3] ; Dmytro Orlov[4] ; [1]University of Vienna, Wien, Austria; [2]Austrian Institute of Technology, Seibersdorf, Austria; [3]AIT Austrian Institute of Technology GmbH, Wiener Neustadt, Austria; [4]Division Mater.Engineering, Dep. Mech. Engineering, Lund University, Lund, Sweden;
Paper Id: 424

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **AdvancedMaterialsWedAM-R6**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Wed Nov, 7 2018 /
Room: **Guaratiba (60/2nd)**

Session Chairs: Patrick Ching-Ho **Hsieh**; Udo **Schwingenschlogl**; Session Monitor: TBA

11:20: [AdvancedMaterialsWedAM01] Keynote
Nanotechnologies for Targeted Delivery of Cardiovascular Therapeutics
Patrick Ching-ho Hsieh[1] ; [1]Research Fellow, Taipei, Taiwan;
Paper Id: 8

11:45: [AdvancedMaterialsWedAM02]
Ab-initio Calculations of the Thermoelectric Properties of MXenes
Udo Schwingenschlogl[1] ; [1]King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia;
Paper Id: 285

12:10: [AdvancedMaterialsWedAM03]
High Effective Surface Area Electrodes by Electrochemically-induced Swelling of Aligned CNT Fibers
Katarzyna Krukiewicz[1] ; Roman Turczyn[1] ; John Bulmer[2] ; Krzysztof Koziol[3] ; [1]Silesian University of Technology, Gliwice, Poland; [2]University of Cambridge, Cambridge, United Kingdom; [3]University of Cambridge, Cranfield, United Kingdom;
Paper Id: 310

12:35: [AdvancedMaterialsWedAM04]
Maintenance of the Cell Motility in the Tunic of Halocynthia Roretzi
Yoko Kato[1] ; [1]Tohoku Gakuin University, Tagajo, Japan;
Paper Id: 273

13:00 LUNCH

SESSION: **AdvancedMaterialsWedPM1-R6**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Wed Nov, 7 2018 /
Room: **Guaratiba (60/2nd)**

Session Chairs: Tetiana **Prikhna**; Marina **Nisnevitch**; Session Monitor: TBA

14:00: [AdvancedMaterialsWedPM105]
Biodiesel Production from Brown Grease
Marina Nisnevitch[1] ; Faina Nakonechny[1] ; Mirit Kolet[1] ; Daniel Zerbib[1] ; [1]Ariel University, Ariel, Israel;
Paper Id: 202

14:25: [AdvancedMaterialsWedPM106]
Ionic Liquid Based Artificial Cellulase Type Catalysts for Cellulosic Ethanol Process
Ananda Amarasekara[1] ; [1]Prairie View A&M University, Prairie View, United States;
Paper Id: 50

14:50: [AdvancedMaterialsWedPM107] Invited
Hot Pressed Aluminum Dodecaboride- and Boron Carbide-based Ceramics
Tetiana Prikhna[1] ; Pavlo Barvitskiy[1] ; Viktor Moshchil[1] ; Vladislav Domnich[2] ; Fernand Marquis[3] ; Myroslav Karpets[1] ; Sergey Dub[1] ; Semyon Ponomarov[4] ; Richard Haber[2] ; [1]Institute for Superhard Materials, Kiev, Ukraine; [2]Department of Materials Science and Engineering, Rutgers, The State University of New Jersey, New Brunswick, United States; [3]San Diego State University, San Diego, United States; [4]Institute of Semiconductor Physics, Kiev, Ukraine;
Paper Id: 119

15:15: [AdvancedMaterialsWedPM108]
Self-regulation of Living Spaces Through Material Multi-functionality
Tahir Cagin[1] ; Ergun Akleman[2] ; Terry Creasy[3] ; Negar Kalantar[3] ; Zofia Rybkowski[4] ; [1]Texas A&M University, College Station, United States; [2]texas a&m university, college station, United States; [3]TAMU, college station, United States; [4]TAMU, college Station, United States;
Paper Id: 255

15:40 Break

SESSION: **AdvancedMaterialsWedPM2-R6**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Wed Nov, 7 2018 /
Room: **Guaratiba (60/2nd)**

Session Chairs: Hervé **Martinez**; Xijia **Wu**; Session Monitor: TBA

15:55: [AdvancedMaterialsWedPM209] Keynote
New Surface Science Investigations for the Knowledge of Electrochemical Energy Storage
Hervé Martinez[1] ; [1]Université de Pau et des Pays de l'Adour - IPREM CNRS UMR 5254, Pau, France;
Paper Id: 9

16:20: [AdvancedMaterialsWedPM210] Keynote
Material Life Prediction for Sustainable Development
Xijia Wu[1] ; [1]National Research Council Canada, Ottawa, Canada;
Paper Id: 199

16:45: [AdvancedMaterialsWedPM211]
MIEC-type A2BO4 ceramic membranes with enhanced oxygen permeation
Konrad Swierczek[1] ; [1]AGH University of Science and Technology, Faculty of Energy and Fuels, Krakow, Poland;
Paper Id: 194

17:10: [AdvancedMaterialsWedPM212]
Application and Results of Oxipyr®-diluted Combustion in Aluminum Furnaces
Michael Potesser[1] ; Johannes Rauch[2] ; Davor Spoljaric[2] ; [1]MPOT GmbH / Messer Group GmbH, Gumpoldskirchen, Austria; [2]Messer Group, Gumpoldskirchen, Austria;
Paper Id: 117

17:35 Break

SESSION: **AdvancedMaterialsWedPM3-R6**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Wed Nov, 7 2018 /
Room: **Guaratiba (60/2nd)**

Session Chairs: Pavle **Radovanovic**; Session Monitor: TBA

17:40: [AdvancedMaterialsWedPM313] Keynote
Plasmonic Semiconductor Nanocrystals as Multifunctional Materials
Pavle Radovanovic[1] ; [1]University of Waterloo, Waterloo, Canada;
Paper Id: 380

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **EnvironmentalWedAM-R7**

7th Intl. Symp. on Environmental, Policy, Management , Health, Economic , Financial, Social Issues Related to Technology and Scientific Innovation

Wed Nov, 7 2018 / Room: **Pontal (50/2nd)**

Session Chairs: Kyoshik **Park**; Ludo **Diels**; Session Monitor: TBA

11:20: [EnvironmentalWedAM01] Plenary
Creating a Sustainable Future: Industrial Processing and Productive Chains
Pedro Prates Valério[1] ; Elem Rocha[2] ; Jesus Maria Frias Celayeta[3] ; Marcelo Cardoso[2] ; Erika Cristina Cren[2] ; [1]University Center of Belo Horizonte (UNIBH), Belo Horizonte, Brazil; [2]Federal University of Minas Gerais, Belo Horizonte, Brazil; [3]Dublin Institute of Technology, Dublin, Ireland;
Paper Id: 395

11:45: [EnvironmentalWedAM02] Plenary
Challenges and Perspectives — Department of Mechanical Engineering Pontificia Universidade Católica do Rio de Janeiro
Mônica F. Naccache[1] ; [1]Pontificia Universidade Católica do Rio de Janeiro, Rio de Janeiro, Brazil;
Paper Id: 402

12:10: [EnvironmentalWedAM03] Plenary
Biobased Aromatics – Challenges, Hurdles, and Opportunities
Ludo Diels[1] ; [1]VITO/UA, Mol, Belgium;
Paper Id: 313

12:35: [EnvironmentalWedAM04]
A Study of High Accident Risk for Chemical Process
Donghoon Lee[1] ; Hern Kim[2] ; Yong Taek Ju[1] ; **Kyoshik Park**[3] ; [1]United Safety Consulting Co., Ltd, Seoul, South Korea; [2]Myongji University, Seongnam, South Korea; [3]Myongji University, Yongin-si, Republic of South Korea;
Paper Id: 303

13:00 LUNCH

SESSION: **EnvironmentalWedPM1-R7**

7th Intl. Symp. on Environmental, Policy, Management , Health, Economic , Financial, Social Issues Related to Technology and Scientific Innovation

Wed Nov, 7 2018 /
Room: **Pontal (50/2nd)**

Session Chairs: Xin **Hu**; Heap-Yih **Chong**; Session Monitor: TBA

14:00: [EnvironmentalWedPM105]
A Novel Multi-agent Conceptual Framework for Stakeholder Management in Infrastructure Projects
Heap-yih Chong[1] ; Xin Hu[2] ; Xiangyu Wang[2] ; [1]Curtin University, Australia, Cannington, Australia; [2]Curtin University, Perth, Australia;
Paper Id: 28

14:25: [EnvironmentalWedPM106]
A Transformative Supply Chain Conceptual Framework for Infrastructure Projects
Xin Hu[1] ; Heap-yih Chong[2] ; Xiangyu Wang[1] ; [1]Curtin University, Perth, Australia; [2]Curtin University, Australia, Cannington, Australia;
Paper Id: 29

14:50: [EnvironmentalWedPM107]
Hydrological Characterization and Simulation of Processes in a Semi-arid Mountainous Catchment of the Cape Fold Belt
Faith Tatenda Jumbi[1] ; Dominic Mazvimavi[1] ; Julia Glenday[2] ; [1]University of the Western Cape, Cape Town, South Africa; [2]South Africa Earth Observation Network, Cape Town, South Africa;
Paper Id: 109

15:15: [EnvironmentalWedPM108]
Quantitative Assessment of Heavy Metals in Tannery Waste by the Exposure of Atomic Absorption Spectroscopy
Muhammad Pervaiz Bhatti[1] ; Shakeel Ahmad[2] ; Ayoub Rashid[2] ; [1]Government College University Lahore, Lahore, Pakistan; [2]Government College University Lahore, Lahore, Pakistan;
Paper Id: 167

15:40 Break

SESSION: **EnvironmentalWedPM2-R7**

7th Intl. Symp. on Environmental, Policy, Management , Health, Economic , Financial, Social Issues Related to Technology and Scientific Innovation

Wed Nov, 7 2018 /
Room: **Pontal (50/2nd)**

Session Chairs: Moustafa **El-Shenawy**; Lokendra **Ohja**; Session Monitor: TBA

15:55: [EnvironmentalWedPM209]
Microbiological Quality of Bivalves and Their Water Beds Along the Mediterranean Coast of Egypt
Moustafa El Shenawy[1] ; [1]National Research Center, Cairo, Egypt;
Paper Id: 20

16:20: [EnvironmentalWedPM210]
A Cost Effective and Sustainable Approach to Use Ladyfinger Flower (Abelmoschus Esculentus) as a Natural Indicator in Titration
Lokendra Ohja[1] ; [1]REGIONAL INSTITUTE OF EDUCATION, NCERT, BHOPAL, India;
Paper Id: 25

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **AdvancedMaterialsWedAM-R8**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Wed Nov, 7 2018 /
Room: **Grego (50/3rd)**

Session Chairs: Michael **Potesser**; Ioan-Cezar **Marcu**; Session Monitor: TBA

11:20: [AdvancedMaterialsWedAM01] Invited
Layered Double Hydroxides-based Materials as Catalysts for Sustainable Chemical Processes
Ioan-cezar Marcu[1] ; [1]Laboratory of Chemical Technology & Catalysis, Faculty of Chemistry, University of Bucharest, Bucharest, Romania;
Paper Id: 169

11:45: [AdvancedMaterialsWedAM02]
Advanced Experimental Design and Optimization Methods for New Building Materials Developed in Civil Engineering
Daniel Lepadatu[1] ; Loredana Judele[1] ; Ion Antonescu[1] ; [1]Technical University Gheorghe Asachi of Iasi, Faculty of Civil Engineering and Building Service, IASI, Romania;
Paper Id: 176

12:10: [AdvancedMaterialsWedAM03]
Modern Methods of Determining Road Bitumen Adhesiveness to Natural Aggregates
Loredana Judele[1] ; Daniel Lepadatu[1] ; Iulian Cucos[2] ; Mihaela Movila[1] ; [1]Technical University Gheorghe Asachi of Iasi, Faculty of Civil Engineering and Building Service, IASI, Romania; [2]Technical University Gheorghe Asachi of Iasi, Faculty of Hydrotechnical Engineering, Geodesy and Environmental Engineering, IASI, Romania;
Paper Id: 186

12:35: [AdvancedMaterialsWedAM04] Invited
Applications of Chalcogenides: S, Se, and Te
Gurinder Ahluwalia[1] ; [1]COLLEGE OF THE NORTH ATLANTIC, Labrador City, Canada;
Paper Id: 164

13:00 LUNCH

SESSION: **AdvancedMaterialsWedPM1-R8**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Wed Nov, 7 2018 /
Room: **Grego (50/3rd)**

Session Chairs: Yashika **Gupta**; Jarugu Narasimha **Moorthy**; Session Monitor: TBA

14:00: [AdvancedMaterialsWedPM105]
Investigating Reasons for Poor Performance of CdS/p-SnS Solar Cells
Yashika Gupta[1] ; Arun Palakkandy[2] ; [1]University of Delhi, Delhi, India; [2]S.G.T.B. Khalsa College, University of Delhi, Delhi, India;
Paper Id: 190

14:25: [AdvancedMaterialsWedPM106]
Stimuli-Responsive Materials: Bottom-Up Control of Material Properties by De Novo Molecular Design
Jarugu Narasimha Moorthy[1] ; [1]Dept of Chemistry, IIT Kanpur, IIT Kanpur, India;
Paper Id: 192

14:50: [AdvancedMaterialsWedPM107]
The Multi-layer Structures Based on TiO_2 for Multifunctional Glazing Surface
Luminita Andronic[1] ; [1]Transilvania University of Brasov, Brasov, Romania;
Paper Id: 215

15:15: [AdvancedMaterialsWedPM108]
Heusler Alloy Thin Films Fabricated by DC Magnetron Co-sputtering
Jan Lancok[1] ; Stanislav Cichon[2] ; Katerina Horakova[2] ; Vladimir Chab[3] ; [1]Institute of Physics ASCR, Prague 8, Czech Republic; [2]Institute of Physics ASCR, Prague, Czech Republic; [3]Institute of Physics CAS, Prague, Czech Republic;
Paper Id: 257

15:40 Break

SESSION: **AdvancedMaterialsWedPM2-R8**

4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development

Wed Nov, 7 2018 /
Room: **Grego (50/3rd)**

Session Chairs: Firoz Babu **Kadumudi**; Adedeji **Badiru**; Session Monitor: TBA

15:55: [AdvancedMaterialsWedPM209]
Laponite-reinforced Nanocellulose: A Wood-based Substrate for Recyclable and Foldable Electronics
Firoz Babu Kadumudi[1] ; Mehdi Mehrali[1] ; Alireza Dolatshahi Pirouz[1] ; [1]Technical University of Denmark, Kgs Lyngby, Denmark;
Paper Id: 258

16:20: [AdvancedMaterialsWedPM210]
Achieving Sustainable Industrial Processing Through an Integrative Systems Engineering Framework
Adedeji Badiru[1] ; [1]Air Force Institute of Technology, Dayton, United States;
Paper Id: 301

16:45: [AdvancedMaterialsWedPM211] Keynote
Engineering of Magnetic Softness and GMI Effect in Thin Magnetic Wires
Arcady Zhukov[1] ; Paula Corte Leon[2] ; Arcady Zhukov[2] ; Juan Maria Blanco[2] ; Valentina Zhukoa[2] ; [1]Dept. Phys. Mater., UPV/EHU, CIF:Q4818001B, San Sebastian, Spain; [2]Dept. Phys. Mater., UPV/EHU, San Sebastian, Spain;
Paper Id: 328

17:10: [AdvancedMaterialsWedPM212]
Microcrystalline Silicon Grown on Glass for Photo- and Thermophotovoltaic Applications
Karen Gambaryan[1] ; [1]Department of Physics of Semiconductors and Microelectronics, Yerevan State University, Yerevan, Armenia;
Paper Id: 411

17:35 Break

SESSION: **AdvancedMaterialsWedPM3-R8**	**4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development**
Wed Nov, 7 2018 / Room: **Grego (50/3rd)**	
Session Chairs: Mayya **Kulikova**; Sholpan **Itkulova**; Session Monitor: TBA	

17:40: [AdvancedMaterialsWedPM313]
Synthesis Gas Processing Over Ultrafine Catalysts Based on Composite Material
Mayya Kulikova[1] ; [1]Kulikov2007, Moscow, Russian Federation;
Paper Id: 87

18:05: [AdvancedMaterialsWedPM314]
Hydrogen Production by Biogas Reforming Over Sol-gel Made Nanocatalysts
Sholpan Itkulova[1] ; Sholpan Kussanova[1] ; Kirill Valishevskiy[1] ; Yerzhan Boleubayev[1] ; [1]D.V. Sokolsky Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan;
Paper Id: 99

19:30 PM Dinner

8:15 AM SUMMIT PLENARY
10:30 AM Break

SESSION: **EnergyWedAM-R9**	**5th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, and storage for all energy production technologies; Energy conservation**
Wed Nov, 7 2018 / Room: **Asian (60/3rd)**	
Session Chairs: Puzhen **Gao**; Tshimangadzo Saddam **Munonde**; Session Monitor: TBA	

11:20: [EnergyWedAM01]
Nanostructured $NiFe_2O_4$ Composites as Electrocatalysts for Hydrogen Evolution Reaction (HER) in Acidic Solutions
Tshimangadzo Saddam Munonde[1] ; Philiswa Nomngongo[2] ; Haitao Zheng[1] ; Mphoma Matseke[1] ; [1]The Council for Scientific and Industrial Research (CSIR), Pretoria, South Africa; [2]University of Johannesburg, Johannesburg, South Africa;
Paper Id: 210

11:45: [EnergyWedAM02]
Nuclear Education and Training at Harbin Engineering University, China
Puzhen Gao[1] ; [1]Harbin Engineering University, Harbin, China;
Paper Id: 148

12:10: [EnergyWedAM03]
Technological Treatment of Hazardous Chemical Waste
Sonja Stefanov[1] ; Rade Biocanin[2] ; Mitar Lutovac[3] ; Kristina Radoman[4] ; [1], Novi Sad, Serbia and Montenegro (formerly Yugoslavia); [2]State University of Novi Pazar, Novi Pazar, Serbia and Montenegro (formerly Yugoslavia); [3]University UNION Belgrade, Belgrade, Belgarde, Serbia and Montenegro; [4]Pedagogical Club Tivat, Tivat, Tivat, Serbia and Montenegro;
Paper Id: 21

12:35: [EnergyWedAM04]
Management of Sand Production in Oil and Gas Reservoirs
Abdollah Esmaeili[1] ; [1]Cyprus International University (CIU), Nicosia, Cyprus;
Paper Id: 36

13:00 LUNCH

SESSION: **EnergyWedPM1-R9**

5th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, and storage for all energy production technologies; Energy conservation

Wed Nov, 7 2018 /
Room: **Asian (60/3rd)**

Session Chairs: Abdollah **Esmaeili**; Session Monitor: TBA

14:00: [EnergyWedPM105]
Sand Production in an Oil Well and Its Prediction Methods
Abdollah Esmaeili[1] ; [1]Cyprus International University (CIU), Nicosia, Cyprus;
Paper Id: 35

14:25: [EnergyWedPM106]
Local Thermal Effect on Vapor Extraction (VAPEX) Process for Heavy Oil Enhanced Recovery
Abdollah Esmaeili[1] ; [1]Cyprus International University (CIU), Nicosia, Cyprus;
Paper Id: 37

14:50: [EnergyWedPM107]
Naphthalene and Pyrene Degradation by Novel Bacterial Strains Isolated From an Oil-polluted Site in the Arabian Gulf
Assad Al Thukair[1] ; [1]King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia;
Paper Id: 5

Posters

SESSION:IronPoster	**Afonso International Symposium on Advanced Sustainable Iron and Steel Making(6th Intl. Symp. on Advanced Sustainable Iron and Steel Making)**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[IronPoster1] **The Addition of Steel Scrap in the Charge and its Impact on the Result Properties of Cast Iron**
Peter. Futas [1] ; Alena. Pribulova [2] ; Jozef. Petrik [3] ; Marcela. Pokusova [4] ; Andrea. Junakova [5] ; [1]Slovak University of Technology, Bratislava, Slovakia; [2]Technical University in Kosice, Faculty of Metallurgy, Kosice, Slovakia (Slovak Republic); [3]Technical university of Kosice, Kosice, Slovakia (Slovak Republic); [4]Slovak University of Technology in Bratislava, Bratislava, Slovenia; [5]Magneti Marelli Slovakia, Kechnec, Slovakia (Slovak Republic);
Paper Id: 129

[IronPoster2] **Impact of Raw Materials on Production and Refining of Silicon**
Vishu. Dosaj [1] ; [1]Dow Corning Corporation, Midland, United States;
Paper Id: 400

SESSION:ElectrochemistryPoster	**Amatore International Symposium on Electrochemistry for Sustainable Development**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[ElectrochemistryPoster1] **KISSA, a Software for Fast and Accurate Simulation of Complex Electrochemical Problems**
Irina. Svir [1] ; Alexander. Oleinick [2] ; Oleksiy. Klymenko [3] ; Christian. Amatore [4] ; [1]Ecole Normale Superieure, Department Chemistry, PARIS, France; [2]CNRS-ENS-SU UMR 8640 PASTEUR, CNRS, Paris, France; [3]University of Surrey, Farnham, United Kingdom; [4]CNRS & PSL, French Academy of Sciences, Paris, France;
Paper Id: 23

[ElectrochemistryPoster2] **Nanochannels Photoelectrochemical Biosensor**
Wei-wei. Zhao [1] ; [1]Nanjing University, Nanjing, China;
Paper Id: 70

[ElectrochemistryPoster3] **Medicinal Electrosynthesis: A Green, Scalable, Economical and Safe Way to Activate Organic and Organometallic Molecules**
Kevin. Lam [1] ; [1]The University of Greenwich, Chatham Maritime, United Kingdom;
Paper Id: 77

[ElectrochemistryPoster4] **Synthesis and Characterization of Nanostructured Molecularly Imprinted Sol-gel as Selective Electrochemical Sensor for Detection of 4-Nitrophenol**
Marilia. Goulart [1] ; Walker. Cordeiro [2] ; Sarah. Cavalcante [2] ; Jessica. Silva [2] ; Monik. Santos [2] ; Wilney. Santos [3] ; Phabyanno. Lima [3] ; [1]Biotechnology Institute, Federal University of Alagoas, Maceio, Brazil; [2]Universidade Federal de Alagoas, Maceio, Brazil; [3]Instituto Federal de Ciência e Tecnologia de Alagoas (IFAL), Maceio, Brazil;
Paper Id: 141

[ElectrochemistryPoster5] **Nanoscale Electrochemical Imaging for Functional Materials**
Tomokazu. Matsue [1] ; [1], Sendai, Japan;
Paper Id: 142

[ElectrochemistryPoster6] **The Nature of Current Peaks Observed in Electrochemical Systems Involving Metal Complexes: Properties and Diagnostics**
Arvydas. Survila [1] ; [1]Center for Physical Sciences and Technology, Vilnius, Lithuania;
Paper Id: 197

[ElectrochemistryPoster7] **Transformation of Complex LPS Voltammograms into Normalized Tafel Plots as Applied to Ligand-deficient Systems**
Arvydas. Survila [1] ; [1]Center for Physical Sciences and Technology, Vilnius, Lithuania;
Paper Id: 198

[ElectrochemistryPoster8] **Unique Carbon Electrodes for Microelectronics and Energy Storage**
Richard. Mccreery [1] ; Anna. Farquhar [1] ; Mustafa. Supur [1] ; [1]University of Alberta, Edmonton, Canada;
Paper Id: 223

[ElectrochemistryPoster9] **Electrocatalysis in PEM-FC Reactions: The Influence of the Architectural Disposition of Elements on Surface Adsorption Site Electronic Condition**
Francielle. Bortoloti [1] ; Maria Laura. Dellacosta [2] ; Nicolas. Ishiki [3] ; Beatriz. Keller [3] ; Kleper. Rocha [3] ; Antonio. Angelo [3] ; [1], Bauru, Brazil; [2]Unesp, Bauru, Brazil; [3]UNESP, Bauru, Brazil;
Paper Id: 224

[ElectrochemistryPoster10] **Synthesis of Electrically Active Switched Ion Exchange Electrode for the Removal of Cesium Ion**
Ahmed. Tawfic [1] ; Mohy. Sabry [1] ; Mohamed. Yassin [1] ; [1]Military Technical College, Cairo, Egypt;
Paper Id: 231

[ElectrochemistryPoster11] **Estimation of the Lability of Electrochemical Systems Involving Processes with Chemical Stages**
Arvydas. Survila [1] ; Stasė. Kanapeckaitė [2] ; Kęstutis. Mažeika [3] ; [1]Center for Physical Sciences and Technology, Vilnius, Lithuania; [2]staseka, Vilnius, Lithuania; [3]center for physical sciences and technology, Vilnius, Lithuania;
Paper Id: 234

[ElectrochemistryPoster12] **Photocatalytic Degradation of Methyl Orange Dye in a Tubular Flow Reactor Using Nanotubular Oxides Grown on Ti0.5W Alloy**
Joyce. Carvalho [1] ; Milene. Codolo [2] ; Christiane. Rodrigues [2] ; [1]Federal University of Sao Paulo, Diadema, Brazil; [2]Federal University of São Paulo, Diadema, Brazil;
Paper Id: 251

[ElectrochemistryPoster13] **Density Functional Theory Studies of Cu and Sn Surfaces relevant for Electroplating**
Shannon K.. Stauffer [1] ; Linas. Vilčiauskas [1] ; Arvydas. Survila [2] ; [1]center for physical sciences and technology, Vilnius, Lithuania; [2]Center for Physical Sciences and Technology, Vilnius, Lithuania;
Paper Id: 262

[ElectrochemistryPoster14] **Aqueous CO_2 Reduction on Nanotubes TiO_2 Modified by Copper Porphyrins**
Kallyni. Irikura [1] ; Juliana. Ferreira De Brito [2] ; Carolina. Machado Terzi [3] ; Shirley. Nakagaki [3] ; Maria Valnice. Boldrin Zanoni [4] ; [1]Institute of Chemistry-Araraquara, UNESP, Araraquara, Brazil; [2]UNESP, Araraquara, Brazil; [3]Federal University of Paraná UFPR, Curitiba, Brazil; [4]Institute of Chemistry-Araraquara UNESP, Araraquara, Brazil;
Paper Id: 320

[ElectrochemistryPoster15] **Assessment of Polydopamine and Nafion effect in the functionalization of TiO2 nanotubes electrodes with Cu2O nanocubes for the photoelectrocatalytic conversion of CO2 under visible light**
Lilian Danielle De Moura. Torquato [1] ; Fabian Andree Cerda. Pastrian [2] ; João Angelo. Lima Perini [3] ; Juliana. Ferreira De Brito [4] ; Susana Ines Cordoba. De Torresi [2] ; Maria Valnice. Boldrin Zanoni [5] ; [1]Sao Paulo State University (UNESP), Araraquara, Brazil; [2]University of Sao Paulo, São Paulo, Brazil; [3]São Paulo State University (UNESP), Araraquara, Brazil; [4]UNESP, Araraquara, Brazil; [5]Institute of Chemistry-Araraquara UNESP, Araraquara, Brazil;
Paper Id: 321

[ElectrochemistryPoster16] **Development of Screen-printed Electrodes Based on Laboratory-made Conductive Inks Derived From Renewable Sources and Recycled Polymers.**
Deivy. Wilson [1] ; Robson. Rosa Da Silva [2] ; Hernane. Silva Barud [3] ; Sidney. J. L. Ribeiro [4] ; Osvaldo. N. De Oliveira Jr [2] ; [1]Instituto de Física de São Carlos, USP, São Carlos, Brazil; [2]Instituto de Física de São Carlos, USP, São Carlos, Brazil; [3]Universidade de Araraquara, Araraquara, Brazil; [4]nstitute of Chemistry, São Paulo State University, Araraquara, Brazil;
Paper Id: 404

SESSION:MoltenPoster	**Fehrmann International Symposium on Sustainable Molten Salt and Ionic Liquid Processing (6th Intl. Symp. on Sustainable Molten Salt and Ionic Liquid Processing)**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[MoltenPoster1] **Electrochemical Behaviour of Molybdenum Oxide and its Compounds in Carbamide Melts**
Sergei. Devyatkin [1] ; Svetlana. Kochetova [2] ; [1]Institute of General and Inorganic Chemistry, Kiev, Ukraine; [2]V.I. Vernadsky Institute of General and Inorganic Chemistry of the National Academy of Sciences of Ukraine, Kyiv, Ukraine;
Paper Id: 18

[MoltenPoster2] **Molten Re(VII) Oxosulfato Complexes in the Re_2O_7-$K_2S_2O_7$ System Studied by Raman Spectroscopy at 260 – 470°C**
Soghomon. Bogosian [1] ; Chrysanthi. Andriopoulou [2] ; Ioannis. Anastasiou [1] ; [1]University of Patras, Patras, Greece; [2]FORTH-ICE/HT and University of Patras, Patras, Greece;
Paper Id: 67

[MoltenPoster3] **Electrical Conductivity of Molten $InCl_3$**
Alexei. Potapov [1] ; Alexander. Salyulev [1] ; [1]Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;
Paper Id: 101

[MoltenPoster4] **Electrical Conductivity of Molten Mixtures of LiCl-KCl Eutectic with Lanthanide Trichlorides**
Alexander. Salyulev [1] ; Alexei. Potapov [1] ; Vladimir. Shishkin [1] ; [1]Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;
Paper Id: 102

[MoltenPoster5] **Investigation of the Distillation Characteristics of LiCl-Li_2O Molten Electrolyte**
Alexander. Salyulev [1] ; Alexei. Shishkin [1] ; Alexei. Potapov [1] ; Vladimir. Shishkin [1] ; Yurii. Zaikov [1] ; [1]Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;
Paper Id: 104

[MoltenPoster6] **Oxidation of NO to NO_2 by SILP materials promoted by trace alcohol**
David. Nielsen [1] ; Alexander W.. Liljegren [1] ; Susanne. Mossin [1] ; Rasmus. Fehrmann [1] ; [1]DTU Chemistry, Lyngby, Denmark;
Paper Id: 249

[MoltenPoster7] **Hydrogen Storage with Liquid Organic Hydrogen Carriers (LOHCs) in Biphasic Molten Salt Systems**
Alexander. Soegaard [1] ; Anders. Riisager [2] ; Peter. Wasserscheid [3] ; [1]DTU Chemistry, Kongens Lyngby, Denmark; [2]DTU Chemistry, Kgs. Lyngby, Denmark; [3]Friedrich-Alexander-Universitat, Erlangen, Germany;
Paper Id: 254

SESSION:ManufacturingPoster	**Mamalis International Symposium on Advanced Manufacturing of Advanced Materials and Structures with Sustainable Industrial Applications**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[ManufacturingPoster1] **Nanotechnology Enables Hot Gold Nanorods to Kill Cancer Cells and to Stop Live Cells from Migrating and Killing More Sick People**
Mostafa A.. El Sayed [1] ; [1]Georgia Institute of Technology, Atlanta, United States;
Paper Id: 12

[ManufacturingPoster2] **Multiphysics Challenges in Industrial Applications**
Mojtaba. Moatamedi [1] ; Basem. Alzahabi [2] ; [1]University of Manchester, Manchester, United Kingdom; [2]Al Ghurair University, Dubai, United Arab Emirates;
Paper Id: 61

[ManufacturingPoster3] **Analysis of 3D Scanning Measurements of the Plastically Deformed Aircraft Elements**
Krzysztof. Zaba [1] ; Sandra. Puchlerska [1] ; Jaroslaw. Mizera [2] ; Ryszard. Sitek [3] ; [1]Department of Metal Working and Physical Metallurgy of Non-Ferrous Metals, Cracow, Poland; [2]Faculty of Materials Science and Engineering, Warsaw University of Technology, Warsaw, Poland; [3]Faculty of Materials Science and Engineering, Warsaw University of Technology, WARSAW, Poland;
Paper Id: 139

[ManufacturingPoster4] **Strong Electron Correlations in Oxides: The Route to Promising Functional Materials**
Bernard. Raveau [1] ; [1]University of Caen, Normandy, France;
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[ManufacturingPoster5] **Transition Metal Oxides: A Vast Investigative Field for Functional Materials**
Bernard. Raveau [1] ; [1]University of Caen, Normandy, France;
Paper Id: 156

[ManufacturingPoster6] **Effect of Deformation on Phases Formation and Properties of Surface Layers in Fe-based Alloys Under Diffusion of N and C**
Sergii. Sidorenko [1] ; Lesya. Demchenko [2] ; Anatoliy. Titenko [3] ; Tie-zhen. Ren [4] ; [1]Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine; [2]National Technical University of Ukraine "Igor Sikorsky Kyiv Politechnic Institute", Kyiv, Ukraine; [3]Institute of Magnetism, NAS of Ukraine, Kyiv, Ukraine; [4]Hebei University of Technology, Tianjin, China;
Paper Id: 178

[ManufacturingPoster7] **Influence of the Heat Treatment Atmosphere on Coercivity of [FePt/Au/FePt]2x Thin Films**
Sergii. Sidorenko [1] ; S.m.. Voloshko [1] ; A.k.. Orlov [1] ; I.a.. Vladymyrskyi [1] ; K.. Kato [2] ; T.. Ishikawa [2] ; [1]Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine; [2]RIKEN SPring-8 Center, Hyogo, Japan;
Paper Id: 179

[ManufacturingPoster8] **Prediction of Suitable Material for Ag/Me/Graphene Interface as Front Contact for Solar Cells**
Sergii. Sidorenko [1] ; Weiping. Gong [2] ; Zhaohui. Guo [2] ; Weidong. Xie [2] ; Min. Liu [2] ; S.. Konorev [1] ; M.. Fedorov [1] ; S.m.. Voloshko [1] ; [1]Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine; [2]Huizhou University, Huizhou, China;
Paper Id: 181

[ManufacturingPoster9] **Surface Relaxation and Stress on Ti/Graphene Systems**
Sergii. Sidorenko [1] ; Weiping. Gong [2] ; Zhaohui. Guo [2] ; S.. Konorev [1] ; S.m.. Voloshko [1] ; [1]Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine; [2]Huizhou University, Huizhou, China;
Paper Id: 182

[ManufacturingPoster10] **Sustainable Industrial Applications via Solid State Polycondensation**
Constantine. Papaspyrides [1] ; [1]NATIONAL TECHNICAL UNIVERSITY OF ATHENS, AVLONAS, Greece;
Paper Id: 183

[ManufacturingPoster11] **The Correlation Between the Mineralogical Composition and the Surface Properties of Inorganic Natural Materials**
Yuliya. Danchenko [1] ; [1]Kharkiv National University of Civil Engineering and Architecture, Kharkiv, Ukraine;
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[ManufacturingPoster12] **Comparison of Mechanical Properties of Samples Obtained by Injection Molding and FDM Printing**
Marcin. Bilewicz [1] ; Tomasz. Tański [2] ; [1], Gliwice, Poland; [2]Silesian University of Technology, Gliwice, Poland;
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[ManufacturingPoster13] **Giant Magneto-impedance Sensor for Steel Health Monitoring**
Spyridon. Angelopoulos [1] ; Xenia. Vourna [1] ; Aphrodite. Ktena [2] ; Panagiotis. Tsarabaris [1] ; Evangelos. Hristoforou [1] ; Athanasios G.. Mamalis [3] ; [1]National TU of Athens, Athens, Greece; [2]TEI of Chalkida, Chalcis, Greece; [3]PC-NAE,Demokritos National Center for Scientific Research, Athens, Greece;
Paper Id: 297

SESSION:SISAMPoster	**Zehetbauer International Symposium on Science of Intelligent and Sustainable Advanced Materials (4th Intl. Symp. on Science of Intelligent and Sustainable Advanced Materials (SISAM))**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[SISAMPoster1] **Bulk Nanocrystalline Shape Memory Alloys Processed by Severe Plastic Deformation**
Thomas. Waitz [1] ; [1]University of Vienna, Faculty of Physics, Physics of Nanostructured Materials, Vienna, Austria;
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[SISAMPoster2] **Cobalt Ferrite — New Aspects in Magnetization Behaviour**
Reiko. Sato [1] ; [1]Technical University ov Vienna, Institute of Solid State Physics, Vienna, Austria;
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[SISAMPoster3] **Grain Boundaries in Severely Deformed Materials: Structure, Properties, and Thermal Evolution**
Sergiy. Divinski [1] ; [1]Institute of Materials Physics, University of Muenster, Münster, Germany;
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[SISAMPoster4] **Using High-pressure Torsion to Consolidate Magnesium Matrix Composites**
Roberto. Figueiredo [1] ; Pedro Henrique. Pereira [1] ; Moara. Castro [1] ; Augusta. Isaac Neta [1] ; Terence G.. Langdon [2] ; [1]Universidade Federal de Minas Gerais, Belo Horizonte, Brazil; [2]University of Southampton, Southampton, United Kingdom;
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[SISAMPoster5] **Overview of Magnetic Nanoparticle Systems**
Marcelo. Knobel [1] ; [1]University of Campinas (Unicamp), Campinas, Brazil;
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[SISAMPoster6] **The Controlled Mechanical Property of Collagen Hydrogel for Bone Tissue Engineering**
Chun-ho. Kim [1] ; Gilson. Khang [2] ; Kwang Seok. Kim [1] ; Sang Jun. Park [1] ; Wheemoon. Cho [1] ; [1]KIRAMS, Seoul, South Korea; [2]Chonbuk National University, Jeonju-si, South Korea;
Paper Id: 413

SESSION:AdvancedMaterialsPoster	**4th Intl. Symp. on New and Advanced Materials and Technologies for Energy, Environment and Sustainable Development**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[AdvancedMaterialsPoster1] **Synthesis, Molecular Docking, and Antimycotic Evaluation of Some 3-Acyl Imidazo[1,2-a]pyrimidines**
Omar. Gómez [1] ; Dulce. Andrade [1] ; [1]IPN, Ciudad de México, Mexico;
Paper Id: 24

[AdvancedMaterialsPoster2] **Dry Sorbent Circulating Reactor System for Removing Acid Gas Pollutant Emissions from Power and Incineration Utilities**
Young Ok. Park [1] ; Jae Won. Han [2] ; Naim. Hasolli [2] ; Seong Min. Cheon [1] ; Kang San. Lee [1] ; Jea Rang. Lee [1] ; Kwan Deuk. Kim [1] ; [1]Korea Institute of Energy Research, Daejeon, South Korea; [2]SN Co., Ltd., Ansan, South Korea;
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[AdvancedMaterialsPoster3] **Biodegradable Polymers and Biodegradable Polymer Nanocomposites**
Francesco Paolo. La Mantia [1] ; Luigi. Botta [2] ; Marco. Morreale [3] ; Maria Chiara. Mistretta [2] ; Manuela. Ceraulo [4] ; [1]DICAM - University of Palermo, Palermo, Italy; [2]University of Palermo, palermo, Italy; [3]University Kore, Enna, Italy; [4]INSTM, palermo, Italy;
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[AdvancedMaterialsPoster4] **Electroflotation Process Using DSA® Electrodes to Cyanobacteria Removal From Water Supply**
Thyara Campos Martins. Nonato [1] ; Tiago. Burgardt [2] ; Alcione. Alves [3] ; Mauricio. Sens [2] ; [1], Florianópolis, Brazil; [2]UFSC, Florianópolis, Brazil; [3]UFFS, Cerro Largo, Brazil;
Paper Id: 153

[AdvancedMaterialsPoster5] **Dehydriding Properties of Mg-Al Alloys Prepared by Hydriding Combustion Synthesis and Mechanical Milling**
Liquan. Li [1] ; Yunfeng. Zhu [1] ; [1]Nanjing Tech University, Nanjing, China;
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[AdvancedMaterialsPoster6] **Ag_2WO_4 Polymorphs: Easily Synthetized and Highly Efficient for Antibiotics Degradation**
Roman. Alvarez Roca [1] ; Pablo. Santana [2] ; Elson. Longo [3] ; [1]CDMF/ Dpto Química, Sao Carlos, Brazil; [2]CDMF/Dpto. Química, UFSCar, Sao Carlos, Brazil; [3]CDMF/Dpto. Química, UFSCar, São Carlos, Brazil;
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[AdvancedMaterialsPoster7] **Dehalogenation of Organohalogen Compounds in Water by Using Raney Nickel Catalysts Prepared by Combustion Synthesis**
Ryuichi. Tomoshige [1] ; Masashi. Nishida [2] ; [1]Sojo University, Kumamoto, Japan; [2]Sojo university, Kumamoto, Japan;
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[AdvancedMaterialsPoster8] **Magnetoplasmonic Nanoheterodimers for Synergistic Enhancement of Cancer Therapy**
Carola. Kryschi [1] ; Stefanie. Klein [2] ; [1]Friedrich-Alexander University Erlangen, Erlangen, Germany; [2]Friedrich-Alexander University od Erlangen, Erlangen, Germany;
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[AdvancedMaterialsPoster9] **Colloid-based Drug Delivery Systems**
Maria A. G.. Soler [1] ; [1]Universidade de Brasilia, Brasilia, Brazil;
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[AdvancedMaterialsPoster10] **Magnetic Hardening of Fe-Pt and Fe-Pt- M (M=B, Si) Microwires**
Valentina. Zhukoa [1] ; Arcady. Zhukov [1] ; Alexandr. Aronin [2] ; Galina. Abrosimova [2] ; Arcady. Zhukov [3] ; [1]Dept. Phys. Mater., UPV/EHU, San Sebastian, Spain; [2]Institute of Solid State Physics, Russian Academy of Science, Chernogolovka, Russian Federation; [3]Dept. Phys. Mater., UPV/EHU, CIF:Q4818001B, San Sebastian, Spain;
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[AdvancedMaterialsPoster11] **Effect of Temperature and Cyclohexylamine as Inhibitor for Deactivation of Modified Catalyst in the Downstream of the Ethylene Dimerization Process**
Reza. Azizmohamadi [1] ; Seyed Hamed. Mahdaviani [2] ; Davood. Soudbar [3] ; [1]Process Engineer, RFCC Unit, Shazand Oil Refinery Company, Arak, Iran; [2]Senior Catalyst Researcher, R&D Center, Arak Petrochemical Company (ARPC), Arak, Iran; [3]Head of Catalysis and Polymer Research Group, R&D Center, Arak Petrochemical Company (ARPC), Arak, Iran;
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[AdvancedMaterialsPoster12] **Growth of Different Cocrystal Conformation by Vapor Deposition**
Georgii. Bogdanov [1] ; Tatiana. Timofeeva [2] ; [1]New Mexico Highlands University, LAS VEGAS, United States; [2]Department of Chemistry, New Mexico Highlands University, Las Vegas, United States;
Paper Id: 416

SESSION:CoatingsPoster	**5th Intl. Symp. on Sustainable Surface and Interface Engineering: Coatings for Extreme Environments**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[CoatingsPoster1] **Characterization of Polymer Solutions with TiO_2 Applied on Substrates and Used in Construction for Sustainable Photocatalysis**
Aline. Hernández [1] ; Natalia. Loera [2] ; Gerardo. Pérez [2] ; Luis. Fischer [2] ; Francisco. Blockstrand [2] ; María Jóse. Contreras [2] ; Diana. Sánchez [2] ; [1]Facultad de Ingeniería, Estado de México, Mexico; [2]Facultad de Ingeniería, Huixquilucan, Edo. de México, Mexico;
Paper Id: 269

SESSION:CompositePoster	**6th Intl. Symp. on Composite, Ceramic and Nano Materials Processing, Characterization and Applications**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[CompositePoster1] **Thermodynamic Analysis of the Interaction of Carbon with TiO_2ZrO_2**
Ketevan. Ukleba [1] ; Jondo. Bagdavadze [2] ;[0] ; [1], Tbilisi, Georgia; [2]Ferdinand Tavadze Institute of Metallurgy and Materials Science, Tbilisi, Georgia;
Paper Id: 76

[CompositePoster2] **Application of Hybrid Zinc Coatings for Improved Corrosion Resistance**
Nikolai. Boshkov [1] ; Kamelia. Kamburova [1] ; Neli. Boshkova [2] ; Tsetska. Radeva [1] ; [1]Institute of Physical Chemistry, Bulgarian Academy of Sciences, Sofia, Bulgaria; [2]Institute of PhysicaL Chemistry, Bulgarian Academy of sciences, Sofia, Bulgaria;
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[CompositePoster3] **Investigation of Ceramic Shell Molds by Using a Thermal Imaging Camera**
Ryszard. Sitek [1] ; Jaroslaw. Mizera [2] ; [1]Faculty of Materials Science and Engineering, Warsaw University of Technology, WARSAW, Poland; [2]Faculty of Materials Science and Engineering, Warsaw University of Technology, Warsaw, Poland;
Paper Id: 131

[CompositePoster4] **Investigation of the Surface Structure Defects in Ceramic Shell Molds Using a Thermo-visual Camera**
Jaroslaw. Mizera [1] ; Pawel. Wisniewski [2] ; Ryszard. Sitek [2] ; Krzysztof. Zaba [3] ; [1]Faculty of Materials Science and Engineering, Warsaw University of Technology, Warsaw, Poland; [2]Faculty of Materials Science and Engineering, Warsaw University of Technology, WARSAW, Poland; [3]Department of Metal Working and Physical Metallurgy of Non-Ferrous Metals, Cracow, Poland;
Paper Id: 133

[CompositePoster5] **Modern Composite Ceramic Binders in Investment Casting Technologies**
Rafal. Cygan [1] ; [1]Rzeszow University of Technology, Rzeszow, Poland;
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SESSION:EnergyPoster	**5th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, and storage for all energy production technologies; Energy conservation**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[EnergyPoster1] **Estimation of the Contents of Trace Elements in Shales in Connection with the Problems of Shale Development**
Svetlana. Punanova [1] ; [1]Oil and Gas Research Institute of the Russian Academy of Sciences, Moscow, Russian Federation;
Paper Id: 16

SESSION:EnvironmentalPoster	**7th Intl. Symp. on Environmental, Policy, Management , Health, Economic , Financial, Social Issues Related to Technology and Scientific Innovation**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[EnvironmentalPoster1] **The 1st Albanian Catalogue of Innovations for Human Development: An Example of Scientific and Social Valorisation of a Country by Participative Methodology**
Davide. Rossi [1] ; Renata. Uruci [2] ; [1]1-NGO Development Cooperation BAZH.I, Via Borgognone, 13, Maserada Sul Piave, Italy 2-Department of Pharmaceutical and Pharmacological Sciences, University of Padova, Italy 3-Faculty of Biosciences, Maserada Sul Piave, Italy; [2]Development Cooperation BAZH.I NGO, Maserada Sul Piave, Italy;
Paper Id: 138

[EnvironmentalPoster2] **Electrolysis Purification of Quarry and Industrial Wastewater From Copper**
Tsisana. Gagnidze [1] ; Rusudan. Chagelishvili [1] ; Zhiul. Kebadze [1] ; [1]Ivane Javakhishvili Tbilisi State University, Rafael Agladze Institute of Inorganic Chemistry and Electrochemistry, Tbilisi, Georgia;
Paper Id: 307

[EnvironmentalPoster3] **Effect of Copper Concentrate and Various Minerals on Flash Furnace Dust Generation and Environmental Protection in Khatoon Abad Copper Smelter Plant**
Ali. Manoochehri [1] ; Ali. Karimifar [1] ; Hossein. Shahi Pirjel [1] ; Peyman. Jamali [2] ; Hossein. Mahmoodi [2] ; Ahmad. Karami [2] ;[0] ; Roohallah. Abbasi [3] ; Mahmoud. Khodadadi [4] ; [1]NICICO, Shahrbabak, Iran; [2]NICICO, shahrbabak, Iran; [3]nicico, shahrbabak, Iran; [4]NICICO, Rafsanjan, Iran;
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[EnvironmentalPoster4] **The Tensiometric Approach at the Study of Biologic Tissues: Analysis of Skin Functionality by Contact Angle Method**
Davide. Rossi [1] ; Renata. Uruci [2] ; Antonio. Bettero [3] ; [1]1-NGO Development Cooperation BAZH.I, Via Borgognone, 13, Maserada Sul Piave, Italy 2-Department of Pharmaceutical and Pharmacological Sciences, University of Padova, Italy 3-Faculty of Biosciences, Maserada Sul Piave, Italy; [2]Development Cooperation BAZH.I NGO, Maserada Sul Piave, Italy; [3]C98-TVS Network srls, PD, Italy;
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SESSION:MathematicsPoster	**3rd Intl. Symp. on Sustainable Mathematics Applications**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[MathematicsPoster1] **Numerical Solution of Optimal Control Problem for Linear Differential Equations with m-Point Nonlocal Boundary Conditions**
David. Devadze [1] ; Vakhtang. Beridze [1] ; [1]Batumi Shota Rustaveli State University, Batumi, Georgia;
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SESSION:MineralPoster	**5th Intl. Symp. on Sustainable Mineral Processing**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[MineralPoster1] **Study of Effect of Repetitive High-Voltage Nanosecond Pulses on the Natural Heterogeneous System of Diamonds**
Igor. Bunin [1] ; Nataliya. Anashkina [1] ; Maria. Ryazantseva [1] ; Galina. Khachatryan [2] ; [1]Research Institute of Comprehensive Exploitation of Mineral Resources Russian Academy of Science, Moscow, Russian Federation; [2]Central Research Institute of Geological Prospecting for Base and Precious Metals, Moscow, Russian Federation;
Paper Id: 126

[MineralPoster2] **Bor Mine Tailings Treatment**
Mile. Bugarin [1] ; Ljiljana. Avramovic [1] ; Jelena. Petrovic [1] ; Radojka. Jonović [1] ; [1]Mining and Metallurgy Institute Bor, Bor, Serbia and Montenegro;
Paper Id: 340

SESSION:NanomaterialsPoster	**5th Intl. Symp. on Synthesis and Properties of Nanomaterials for Future Energy Demands**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[NanomaterialsPoster1] **Study of Photovoltaic Devices Hybrid Active Layer**
Tomasz. Tański [1] ; Pawel. Jarka [2] ; Wiktor. Matysiak [1] ; Barbara. Hajduk [3] ; [1]Silesian University of Technology, Gliwice, Poland; [2]Institute of Engineering Materials and Biomaterials, Silesian University of Technology, Gliwice, Poland; [3]Centre of Polymer and Carbon Materials, Polish Academy of Sciences, Zabrze, Poland;
Paper Id: 240

SESSION:Non-ferrousPoster	**6th Intl. Symp. on Sustainable Non-ferrous Smelting and Hydro/Electrochemical Processing**
	Room: Foyer
Poster Session	4-7 Nov, 2018

[Non-ferrousPoster1] **Comprehensive Ferritisation Treatment of Exhausted Electroplating Electrolytes**
Gennadii. Kochetov [1] ; [1]NATIONAL UNIVERSITY OF CONSTRUCTION AND ARCHITECTURE, Kyiv, Ukraine;
Paper Id: 79

[Non-ferrousPoster2] **Blast Furnace Slag Versus Cupola Furnace Slag**
Alena. Pribulova [1] ; Peter. Futas [2] ; Jozef. Petrik [3] ; Marcela. Pokusova [4] ; [1]Technical University in Kosice, Faculty of Metallurgy, Kosice, Slovakia (Slovak Republic); [2]Slovak University of Technology, Bratislava, Slovakia; [3]Technical university of Kosice, Kosice, Slovakia (Slovak Republic); [4]Slovak University of Technology in Bratislava, Bratislava, Slovenia;
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[Non-ferrousPoster3] **Extraction of Rare-earth Metals from Waste Productions of Phosphoric Acid**
Madali. Naimanbayev [1] ; [1]Center of Earth Sciences, Metallurgy and Ore Benefication, Almaty, Kazakhstan;
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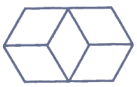

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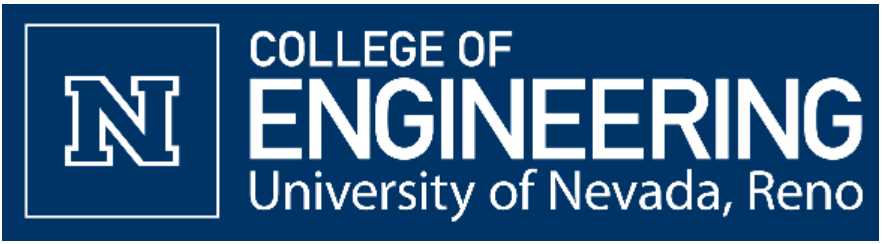

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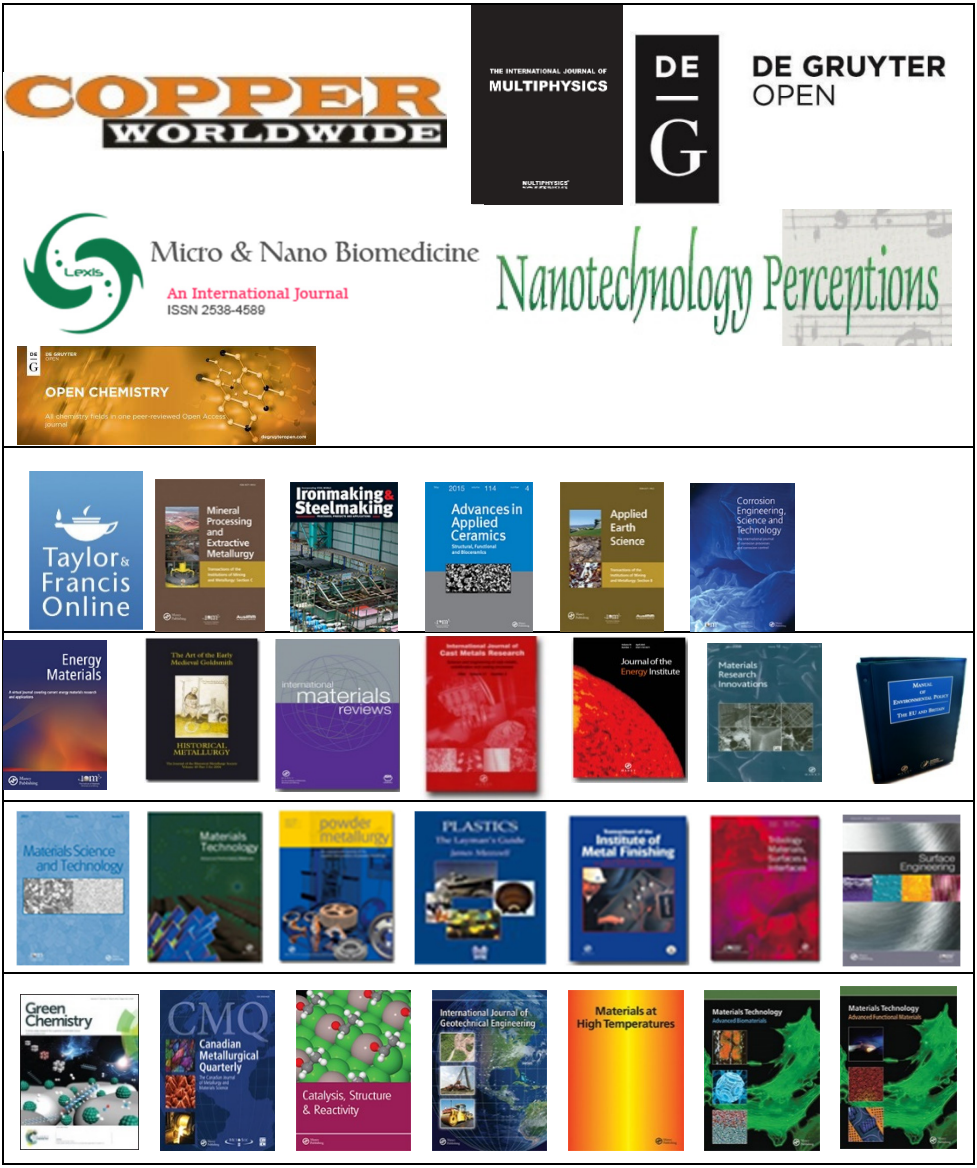

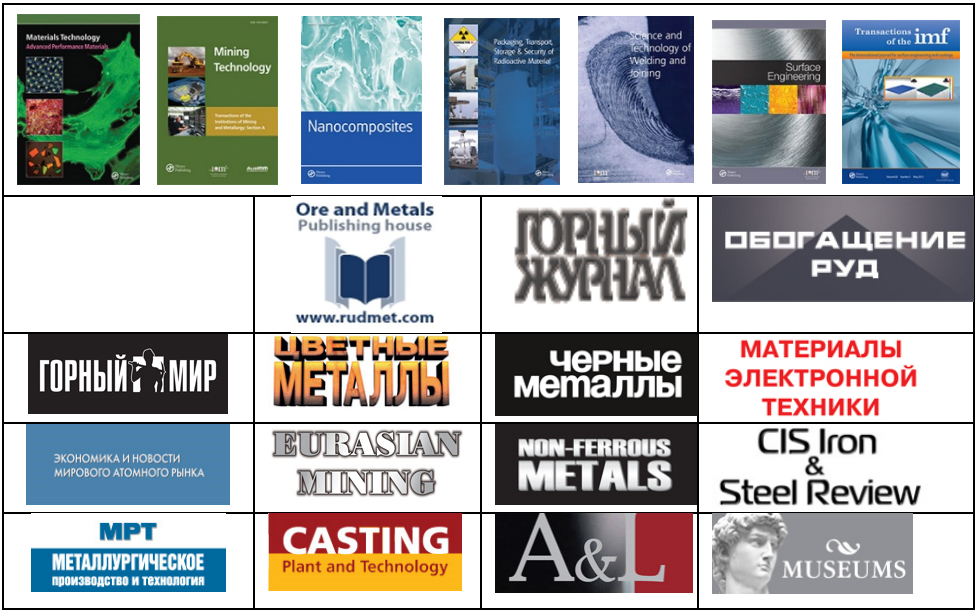

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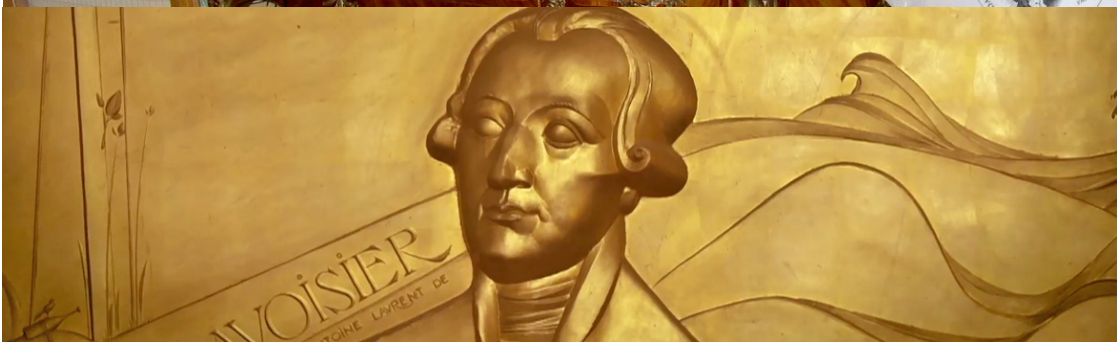

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