



Prof. Ferid Murad

SIPS 2022, in Honor of Nobel Laureate, Prof. Ferid Murad

2022 SIPS

Covering Sustainability Pillars :

- Science, Technology & Industry
- Governance & Management
- Education & Civil Society

Nov 27 - Dec 1, 2022, Hilton Phuket Arcadia, Thailand

SIPS 2022 HONOREES



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Prof. Y. Marcus



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Prof. U. Mizutani



M. Nolan, Esq.



Prof. J. Poveromo



Prof. P. Trovalusci



Prof. H. S. Virk



Prof. R. Yazami



Prof. T. Yoshikawa

PROGRAM



Featuring 9 Nobel Laureates:



Dan Shechtman
2011 - Chemistry



Didier Queloz
2019 - Physics



Stanley Whittingham
2019 - Chemistry



Konstantin Novoselov
2010 - Physics



Aaron Ciechanover
2004 - Chemistry



Avram Hershko
2004 - Chemistry



Kurt Wüthrich
2002 - Chemistry



Ferid Murad
1998 - Medicine



Richard Roberts
1988 - Medicine

Special Address:



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2020 President
American Chemical
Society



Donna J. Nelson
2018 President
American Chemical
Society



Subra Suresh
President, NTU
Singapore
Former Director
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FLOGEN

STAR OUTREACH



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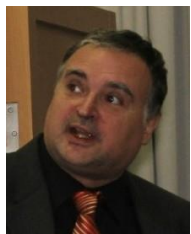
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XI'AN U. of Science
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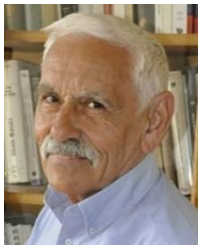
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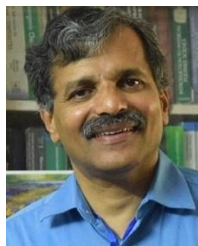
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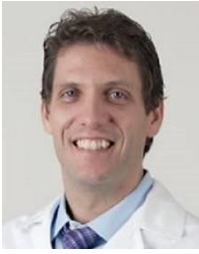
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Family of Israel
Foundation
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Malcolm McNeil
Attorney at Law
Arent Fox



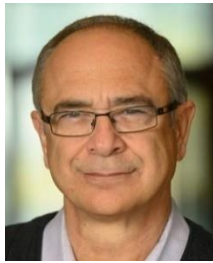
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Welcome Message

Welcome to the SIPS 2022, a yearly event that is deeply science-focused and technology & engineering-oriented, organized since 2003 by the not-for-profit corporation **FLOGEN Stars Outreach** (www.flogen.org), dedicated to achieving sustainability through science and technology. It incorporates summit plenary lectures from well-known speakers that address the link between scientific, technology and engineering domains in the pursuit of sustainable development, as well as specific science, technology and engineering symposia that feature technical presentations with the same goals in mind. Due to COVID-19 restrictions in 2020, this year's summit is for 2020, 2021 and 2022.



Based on the FLOGEN Sustainability Framework given above and following the rich tradition of previous years, the summit will cover 3 sustainability pillars: (1) Science, Technology & Industry, (2) Governance & Management and (3) Education & Civil Society.

SIPS 2022 is entirely dedicated to and bears the name of Prof. Ferid Murad, Nobel Laureate in Medicine and the symbol of Unified Science. Prof. Murad is a pioneer in discovering the positive role of Nitric Oxide in human organism. Nitric Oxide is an inorganic compound considered to be a very dangerous pollutant in the atmosphere. However, Prof. Murad discovered and proved that Nitric Oxide inside the human organism has a very positive role in various directions. With his discovery, Prof. Murad became a symbol of a unified inorganic and organic chemistry, and all related science and technology fields. This is exactly the mission of SIPS to bridge and unify various fields of science and technology which is reflected, among others, in the following medical symposiums:

- [Yoshikawa International Symposium \(2nd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings\)](#)
- [Intl. Symp. on Technological Innovations in Medicine for Sustainable Development](#)
- [Intl. Symp. on COVID-19/Infectious Diseases and their implications on Sustainable Development](#)

The summit simultaneously incorporates numerous International Symposia covering the fields of oxidative stress, medical innovations, green chemistry and polymers, physical chemistry, solid state chemistry, solution chemistry, electrochemistry, molten salt and ionic liquids, advanced materials, advanced manufacturing, advanced technologies, iron and steel making, 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 pedagogical issues. For the full listing of all symposia in this summit, please click here "[Symposia](#)".

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

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2022 Stars



Prof. Miguel Alario-Franco



Prof. Andrey Dmitriev



Prof. Mark Horstemeyer



Prof. Georges Kipourous



Prof. Karel Kolomaznik



Prof. Digby Macdonald



Prof. Yizhak Marcus



Prof. Manfred Mauntz



Prof. Uichiro Mizutani



Matthew M. Nolan, Esq.



Prof. Joseph Poveromo



Prof. Patrizia Trovalusci



Prof. Hardev Singh Virk



Prof. Rachid Yazami



Prof. Toshikazu Yoshikawa

Calendar of Events

SUN 27 Nov 2022	13:00-18:00	SUMMIT REGISTRATION - BALLROOM FOYER										
	19:00-23:00	WELCOMING INFORMAL DINNER & ENTERTAINMENT - Seafarer Pool (outdoor)										
	ROOM	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8	Room 9	Room 10	Room 11
MON 28 Nov 2022	LEVEL	Lobby Level	Lobby Level	Ground Level	Ground Level	Ground Level	Lobby Level	Lobby Level	Ground Level	Ground Level		Game
	8:15-11:00	SUMMIT PLENARY - BALLROOM B										
	11:00-11:30	COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER										
	11:30-13:10	Oxidative (Yoshikawa) 1	SISAM (Mizutani) 1	Iron (Poveromo) 1	Physics (Virik) 1	Recycling (Kolomaznik) 1	Solid State Chemistry (Alario) 1	Corrosion (Macdonald) 1	Multiscale (Horstemeyer) 1	Battery (Yazami) 1	Advanced Materials 1	Energy (Mauntz) 1
	13:10-14:00	LUNCH/POSTERS/EXHIBITION										
	14:00-15:40	Oxidative (Yoshikawa) 2	SISAM (Mizutani) 2	Iron (Poveromo) 2	Physics (Virik) 2	Recycling (Kolomaznik) 2	Solid State Chemistry (Alario) 2	Corrosion (Macdonald) 2	Multiscale (Horstemeyer) 2	Battery (Yazami) 2	Advanced Materials 2	Energy (Mauntz) 2
	15:40-15:55	COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER										
	15:55-17:35	Oxidative (Yoshikawa) 3	SISAM (Mizutani) 3	Iron (Poveromo) 3	Physics (Virik) 3	Recycling (Kolomaznik) 3	Solid State Chemistry (Alario) 3	Corrosion (Macdonald) 3	Modelling (Trovalusci) 1	Battery (Yazami) 3	Advanced Materials 3	Energy (Mauntz) 3
	17:35-17:50	BREAK										
	17:50-18:40	Oxidative (Yoshikawa) 4	SISAM (Mizutani) 4	Iron (Poveromo) 4	Physics (Virik) 4	Recycling (Kolomaznik) 4	Solid State Chemistry (Alario) 4	ROUND TABLE	Modelling (Trovalusci) 2	Battery (Yazami) 4	Advanced Materials 4	Energy (Mauntz) 4
TUE 29 Nov 2022	19:00-23:00	THEME BUFFET DINNER & SHOW - Lagoon Lawn (outdoor)										
	8:15-11:00	SUMMIT PLENARY - BALLROOM B										
	11:00-11:30	COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER										
	11:30-13:10	Medicine 1	SISAM (Mizutani) 5	Metals (Dmitriev) 1	Law (Nolan) 1	Recycling (Kolomaznik) 5	Solid State Chemistry (Alario) 5	Corrosion (Macdonald) 4	Multiscale (Horstemeyer) 3	Battery (Yazami) 5	Advanced Materials 5	Energy (Mauntz) 5
	13:10-14:00	LUNCH/POSTERS/EXHIBITION										
	14:00-15:40	Oxidative (Yoshikawa) 5	SISAM (Mizutani) 6	Iron (Poveromo) 5	Law (Nolan) 2	Non-Ferrous 1	Solid State Chemistry (Alario) 6	Corrosion (Macdonald) 5	Multiscale (Horstemeyer) 4	Battery (Yazami) 6	Advanced Materials 6	Energy (Mauntz) 6
	15:40-15:55	COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER										
	15:55-17:35	Medicine 2	SISAM (Mizutani) 7	Iron (Poveromo) 6	Law (Nolan) 3	Non-Ferrous 2	Solid State Chemistry (Alario) 7	Coatings	Multiscale (Horstemeyer) 5	Battery (Yazami) 7	Advanced Materials 7	Molten (Kipouras) 1
	17:35-17:50	BREAK										
	17:50-18:40	Medicine 3	Oxidative (Yoshikawa) 6	Iron (Poveromo) 7	ROUND TABLE	Non-Ferrous 3	ROUND TABLE	Nanotechnology 1	Multiscale (Horstemeyer) 6	ROUND TABLE	Advanced Materials 8	ROUND TABLE
WED 30 Nov 2022	19:00-23:00	GALA DINNER/AWARDS CEREMONY/SHOW - BALLROOM B										
	8:15-11:00	SUMMIT PLENARY - BALLROOM B										
	11:00-11:30	COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER										
	11:30-13:10	COVID 1	Medicine 4	Iron (Poveromo) 8	Mathematics 1	Non-Ferrous 4	Modelling Materials 1	Nanotechnology 2	Modelling (Trovalusci) 3	Geomechanics 1	Advanced Materials 9	Molten (Kipouras) 2
	13:10-14:00	LUNCH/POSTERS/EXHIBITION										
	14:00-15:40	Oxidative (Yoshikawa) 6	COVID 2	Iron (Poveromo) 9	Mathematics 2	Environmental	Modelling Materials 2	Nanotechnology 3	Modelling (Trovalusci) 4	Geomechanics 2	Advanced Materials 10	Molten (Kipouras) 3
	15:40-15:55	COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER										
	15:55-17:35	Oxidative (Yoshikawa) 7	ROUND TABLE	Metals (Dmitriev) 2	Mathematics 3	Ecosystems	Modelling Materials 3	Physics (Virik) 5	Modelling (Trovalusci) 5	Geomechanics 3	Manufacturing 1	Solution Chemistry 1
	17:35-17:50	BREAK										
	17:50-18:40	Oxidative (Yoshikawa) 8	ROUND TABLE	Metals (Dmitriev) 3	Mathematics 4	ROUND TABLE	ROUND TABLE	ROUND TABLE	Multiscale (Horstemeyer) 6	ROUND TABLE	Manufacturing 2	Solution Chemistry 2
	19:00-23:00	THEME BUFFET DINNER & SHOW - to be decided										

Symposium	Oxidative (Yoshikawa)	SISAM (Mizutani)	Iron (Poveromo)	Physics (Virk)	Recycling (Kolomaznik)	Solid State Chemistry (Alario)	Corrosion (Macdonald)	Multiscale (Horstemeyer) Modelling (Trovalusci)	Battery (Yazami)	Advanced Materials	Energy (Mauntz)
Room	Room 1 Ballroom B	Room 2 Ballroom A	Room 3 Arcadia 1	Room 4 Arcadia 3	Room 5 Arcadia 2	Room 6 Andaman 1	Room 7 Andaman 2	Room 8 Similan 1	Room 9 Similan 2	Room 10 Saitong	Room 11 Game
Level	Lobby Level	Lobby Level	Ground Level	Ground Level	Ground Level	Lobby Level	Lobby Level	Ground Level	Ground Level		
8:15	SUMMIT PLENARY - Ballroom B										
11:00	COFFEE BREAK/POSTERS/EXHIBITION - FOYER										
11:30	522 T. Yoshikawa OS	461 J. Dubois OS	29 J. Poveromo OS	279 H. Virk OS	98 K. Kolomaznik OS	518 M. Alario Franco OS	328 D. Macdonald OS	127 M. Horstemeyer OS	463 R. Yazami OS	97 F. Marquis OS-P	119 M. Mauntz OS
11:55	424 H. INUFUSA OS	373 U. Mizutani OS	368 C. Barrington OL	484 G. sandhu OS	89 L. Sanek OS	519 M. Alario Franco OS	326 R. Singh OS	267 M. Mikalajunas OS	457 V. Kumar OS	448 T. Prikhna OS-P	105 L. Florusse OS
12:20	124 N. Okada OS	451 U. Mizutani OS	547 F. Kongoli OS	248 S. Singh OL	46 A. Ahmad OS	443 A. Varez OS	395 D. Kaoumi OS	93 S. Woo OS	400 Z. BAKENOV OS	164 P. Nègré OS-I	486 M. Mauntz OS
12:45	123 H. INUFUSA OS	Round Table	550 T. Silva OS	243 H. Zafrir OS	86 J. Beltran-Prieto OS	442 B. Levenfeld OS	186 M. Saedikhani OS	265 K. Hashiguchi OS	57 S. Martinet OS	286 T. Prikhna OS	487 M. Mauntz OS
13:10	LUNCH/POSTERS/EXHIBITION										
14:00	122 H. INUFUSA OS	404 J. Dubois OS	503 Y. Gordon OS	280 V. Walia OL	117 V. Vasek OS	177 F. Marquis OS	381 D. Macdonald OS	295 A. Carpinteri OS	476 C. Schwandt OS	285 T. Prikhna OS	100 T. Turna OL
14:25	104 H. Ichikawa OS	452 J. Dubois OS	502 Y. Gordon OS	314 B. Tuladhar OL	91 J. Pecha OS	392 U. OS	380 D. Macdonald OS	260 A. Carpinteri OS	366 S. Firmadya OS	366 S. Khanna OS-I	108 T. Turna OL
14:50	112 C. Amatore OS	414 R. Asahi OS	2 A. Dmitriev OS	255 K. Singh OL	116 D. Janacova OS	456 M. ALARIO OS	192 D. Blackwood OS	262 F. Chmelik OS	482 A. Fox OS	372 A. Bumajdad OS-I	410 T. Turna OL
15:15	418 Y. Harakawa OS	377 T. Takeuchi OS	92 B. Seal OS	534 J. Singh OL	159 S. Thomas OS	525 L. Echegoyen OS	322 M. Halama OS	301 E. Madenci OS	493 A. Fox OS	394 T. Prikhna OS	411 T. Turna OL
15:40	COFFEE BREAK/POSTERS/EXHIBITION - FOYER										
15:55	444 C. Amatore OS	379 Y. Nishino OS	83 D. Pauluzzi OS	240 N. Singh OS	121 C. Gaidau OS	436 H. Kageyama OS	382 D. Macdonald OS	459 P. Trovalusci OS	479 V. Kumar OS	390 S. Pietrzyk OS-I	488 M. Mauntz OS
16:20	445 C. Amatore OS	417 T. Homma OS	49 S. Filatov OS	258 S. Singh OL	61 M. Niculescu OS	441 Y. Sasahara OS	199 H. Singh OS	399 A. OS	431 A. Qurashi OS	284 T. Prikhna OS	437 L. Eskin OS
16:45	446 A. Oleinick OS	471 E. Gaudry OS	44 Y. Gordon OS	540 R. Mehra OL	102 E. Achbergerova OS	469 D. Zhao OS	190 S. Kumar OS	128 N. Fantuzzi OS	489 D. Yarmolich OS	288 V. Mandic OS-I	468 S. Phommakod OS
17:10	447 A. Oleinick OS	453 V. Fournée OS	69 Y. Kato OS	352 M. Burgos OL	161 I. Kelnar OS	506 A. Tressaud OS	200 V. Neetu OL	467 H. Hu OL	Round Table	432 A. Qurashi OS	133 A. Bhalekar OS
17:35	COFFEE BREAK/POSTERS/EXHIBITION										
17:50	504 N. Tavernarakis OS	Round Table	491 M. Pei OL	533 P. Sahoo OL	157 A. Hassan OS	107 Y. LE GODEC OS	Round Table	490 R. Barretta OS	485 W. Li OL	367 Q. Xu OS	175 A. Bhalekar OS
18:15	298 A. Matin OS	Round Table	370 X. Yuan OS	543 D. Pal Singh OL	Round Table	509 G. de la Fuente OS	Round Table	480 G. Liu OS	244 Y. Verbelen OL	114 A. Clurzyńska OS	360 G. Baiden OL
19:00	THEME BUFFET DINNER & SHOW: Lagoon Lawn (outdoor)										

Symposium	Medicine Oxidative (Yoshikawa)	SISAM (Mizutani)	Metals (Dmitriev) Iron (Poveromo)	Law (Nolan)	Recycling (Kolomaznik) Non-Ferrous	Solid State Chemistry (Alario)	Corrosion (Macdonald) Coatings Nanotechnology	Multiscale (Horstemeyer)	Battery (Yazami)	Advanced Materials	Energy (Maunt) Molten (Kipouros)
Room Level	Room 1 Ballroom B Lobby Level	Room 2 Ballroom A Lobby Level	Room 3 Arcadia 1 GroundLevel	Room 4 Arcadia 3 GroundLevel	Room 5 Arcadia 2 GroundLevel	Room 6 Andaman 1 Lobby Level	Room 7 Andaman 2 Lobby Level	Room 8 Similan 1 Ground Level	Room 9 Similan 2 GroundLevel	Room 10 Saitong	Room 11 Game
8:15	SUMMIT PLENARY - Ballroom B										
11:00	COFFEE BREAK/POSTERS/EXHIBITION - FOYER										
11:30	402 J. Kuret OL	422 Y. Miyazaki OS	187 A. Dmitriev OS	454 M. Nolan OS	165 P. Von Kruger OS	237 M. Martin OS	202 V. Kalikivayi OS	142 J. Jordon OS	346 K. Aifantis OL	143 C. Freitas de Araújo OS	415 H. Lee OS
11:55	508 N. Tran OS	406 H. Miyazaki OS	191 M. Naimanbayev OS	389 B. Jedlickova OS	78 G. Hanke OS	236 M. Martin OS	206 S. Geng OS	125 L. Hansen OS	113 G. Pireddu OS	178 S. Gupta OS	132 A. Bhalekar OS
12:20	511 M. Ferrari OL	434 N. Okamoto OS	195 V. Tsepelev OS	449 M. Dibra OS	110 S. Pellet-Rostaing OS	163 S. Saha OS	214 D. Banik OS	140 A. Luo OS	181 S. Cosnier OS	331 A. Yu OS	156 H. Hoteit OS
12:45	515 J. Ioannidis OL	Round Table	176 P. Assis OS	555 F. Kongoli OS	39 T. Hoshino OS	289 K. Carva OS	215 S. Zhu OS	56 S. Park OS	271 M. Sandoval OS	230 A. Chandio OS	19 A. Esmaeili OS
13:10	LUNCH/POSTERS/EXHIBITION										
14:00	425 H. INUFUSA OS	387 M. Ohta OS	22 T. Murakami OS	455 M. Nolan OS	81 J. Antrekowitsch OS	63 Z. Ristic OS	216 Z. Bao OS	375 E. Aifantis OS	507 A. Tressaud OS	198 J. Plotek OS	21 M. Dehghani OS
14:25	429 F. YANG OS	391 S. Hori OS	90 G. Qing OS	498 D. Shanley OS	551 F. Kongoli OS	62 Z. Antic OS	220 B. Lei OS	281 L. Rapoport OS	361 C. Mi OS	253 J. Dawson OS	17 A. Esmaeili OS
14:50	426 Y. Harakawa OS	393 T. Takami OL	74 K. Vreugdenburg OS	154 J. Tomkiewicz OS	141 J. Plank OS	245 M. Polak OS	221 J. Dong OS	79 B. Li OS	483 X. Huang OS	10 I. Konyashin OS	18 A. Esmaeili OS
15:15	94 S. Hirano OS	Round Table	73 J. Muller OS	496 E. Pana OS	318 H. Kua OS	354 E. Suleimenov OS	223 w. wang OS	266 A. OS	316 H. Martinez OS	11 M. Schmittel OS	16 A. Esmaeili OS
15:40	COFFEE BREAK/POSTERS/EXHIBITION - FOYER										
15:55	460 S. Hori OS	435 E. Abe OS	109 T. Usui OS	473 G. Era OS	325 J. Plank OS	64 A. Cirić OS	193 M. Mermillion- OS	229 B. Schrefler OL	472 C. Tan OS	138 K. Swierczek OS	541 G. Kipouros OS
16:20	450 O. Kimura OS	401 H. Sakurai OS	30 Y. Ujisawa OS	474 G. Era OS	524 G. Chimed OS	275 W. Prellier OS	204 M. SAGET OS	294 L. Placidi OL	Round Table	5 I. Ortiz OS	542 G. Kipouros OS
16:45	466 K. Nakagawa OS	500 J. Eckert OS	118 R. Chaigneau OS	475 G. Era OS	495 L. Guo OS	233 K. Hubbard OS	201 H. Kancharla OS	300 K. Parisi OS	Round Table	205 K. Cichy OS	282 C. Schwandt OS
17:10	182 D. Arya OS	Round Table	388 M. Parfenova OS	Round Table	356 N. Nikolaeva OS	409 F. Souza OS	207 H. Zheng OS	413 A. Rajendran OS	Round Table	139 J. Molenda OS	196 T. Ouchi OS
17:35	COFFEE BREAK/POSTERS/EXHIBITION										
17:50	297 P. Mandell OL	357 D. Legut OS	273 V. Lutsyk OS	Round Table	311 F. Abed OS	Round Table	137 S. Nedilko OS	264 R. Batra OL	Round Table	188 M. Mozdziarz OS	Round Table
18:15	168 G. Korabiev OS	209 M. Parfenova OS	462 M. Ksiazek OS	Round Table	183 Y. Shao OS	Round Table	312 K. Rodygin OS	151 B. Wang OS	Round Table	189 K. Li OS	Round Table
19:00	GALA DINNER/AWARDS CEREMONY/SHOW - BALLROOM B										

Symposium	COVID19 Oxidative (Yoshikawa)	Oxidative (Yoshikawa) Medicine COVID19	Iron (Poveromo) Metals (Dmitriev)	Mathematics	Non-Ferrous Environmental Ecosystems	Modelling Materials	Nanotechnology Physics (Virk)	Modelling (Trovalusci) Multiscale (Horstemeyer)	Geomechanics	Advanced Materials Manufacturing	Molten (Kipourous) Solution Chemistry
Room	Room1 Ballroom B	Room2 Ballroom A	Room3 Arcadia 1	Room4 Arcadia 3	Room5 Arcadia 2	Room6 Andaman1	Room7 Andaman2	Room8 Similan 1	Room9 Similan 2	Room 10 Saitong	Room 11 Game
Level	Lobby Level	Lobby Level	Ground Level	Ground Level	Ground Level	Lobby Level	LobbyLevel	Ground Level	Ground Level		
8:15	SUMMIT PLENARY - BallroomB										
11:00	COFFEE BREAK/POSTERS/EXHIBITION - FOYER										
11:30	211 W. Petri OL	235 M. Goulart OL	174 P. Assis OS	58 P. Rowlands OS	277 V. Lutsyk OL	512 Y. Kevrekidis OL	173 P. Assis OS	308 Y. Chen OS	37 S. Pietruszczak OS	52 S. Choi OS	38 A. Henni OS
11:55	212 W. Petri OL	535 J. Zhu OL	155 A. Campos OS	75 T. Aldemir OS	317 V. Lutsyk OL	348 K. Davoudi OL	369 A. NASKAR OS	96 F. Cui OS	302 Q. Chong OS	287 V. Ulasyuk OS	59 A. Henni OS
12:20	226 H. Khalili OL	531 K. Hu OL	283 R. Correa OS	338 M. Mikalajunas OS	355 T. Aleksandrova OL	341 A. Ngan OL	315 E. Varra OS	259 S. Natarajan OS	304 C. Qi OS	194 L. Andronic OS	210 V. Lutsyk OS
12:45	527 J. Ribas OL	536 Y. Tian OL	158 M. Gomez OL	339 M. Mikalajunas OS	82 I. shuaibiao OS	439 M. Asghar OS	324 E. Varra OS	330 X. Gao OS	Round Table	24 S. Nikitenko OS	12 S. Devyatkin OS
13:10	LUNCH/POSTERS/EXHIBITION										
14:00	419 K. Fukui OS	99 S. Yanagida OS	8 K. Saito OS	332 A. Fokas OS	516 P. Mandell OL	349 E. Aifantis OS	247 R. BORSALI OS	376 A. Konstantinidis OL	261 S. Bordas OS	88 R. Chagelishvili OS	378 V. Vassiliadou OS
14:25	421 S. Hirano OS	227 M. Gutman OS	386 R. Mishra OS	278 S. Beghella OS	517 P. Mandell OL	374 E. Aifantis OS	351 J. Serafinczuk OS	256 S. Generalis OS	296 S. Bordas OS	359 L. Bikova OS	70 I. Novoselova OS
14:50	423 K. Abe OS	232 E. Nachliel OS	53 N. Goodman OL	335 A. Bountis OS	160 F. Souza OS	343 E. Rabkin OS	269 A. Fatemi OS	257 E. Paneda OL	305 A. Konstantinidis OL	85 D. Sileikiene OS	Round Table
15:15	103 F. YANG OS	532 M. Kaidash OS	290 B. Ellis OS	313 B. Tuladhar OL	249 M. Angwin OS	342 M. Zaiser OS	4 N. Boshkov OS	131 V. Eremeyev OS	263 J. Dijkstra OS	310 E. Akim OS	Round Table
15:40	COFFEE BREAK/POSTERS/EXHIBITION - FOYER										
15:55	427 F. YANG OS	323 L. Hens OS	321 A. Kar OS	136 L. Kuzmina OS	36 L. Cesoniene OS	514 C. Vayenas OS	242 L. Sajo-Bohus OS	307 S. Lurie OL	306 S. Kourkoulis OS	268 J. Dzigan OS	162 R. Bojesomo OS
16:20	428 F. YANG OS	225 G. Korabiev OS	291 B. Kenzhaliyev OS	219 X. Ren OS	358 I. Hussain OS	513 P. Steinmann OS	544 M. OL	319 L. Rakotomanana OS	505 S. Pavlides OL	420 J. Dzigan OS	185 R. Gardas OS
16:45	430 H. Nakagami OS	238 S. Vashist OS	208 B. Zobnin OS	333 C. Tsallis OS	371 F. Dube OL	347 N. Pugno OS	545 S. Chowdhury OS	129 A. Gliszczynski OS	303 A. Pandolfi OS	31 I. Kim OS	23 N. Saleh OS
17:10	433 Y. Sugiyama OS	353 D. Ozdemir OS	218 A. Povolotskii OS	336 P. Kevrekidis OS	144 V. Kirko OS	345 S. Anastasiadis OS	539 R. Kumar OL	111 C. LICHT OS	Round Table	47 C. Doumanidis OS	147 N. Tkachev OS
17:35	COFFEE BREAK/POSTERS/EXHIBITION										
17:50	538 Y. Long OL	Round Table	228 G. Roy OL	334 P. Santilli OL	Round Table	Round Table	Round Table	250 L. Chen OS	Round Table	184 S. Alexandrov OS	146 K. Peshkina OS
18:15	Round Table	Round Table	309 S. Abro OS	337 W. Oates OS	Round Table	Round Table	Round Table	Round Table	Round Table	Round Table	320 V. TYUTYUNNIK OS
19:30	THEME BUFFET DINNER & SHOW (to be decided)										

Meeting Rooms Diagram



International Committee

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



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Social Events

(Preliminary)

Sunday, 27 November: Welcoming Informal Dinner and Dancing/entertainment show at Seafarer Pool (outdoor). **Attire:** Casual or Business

Monday, 28 November: Buffet Dinner and Thailand Night Dancing/Entertainment Show at Lagoon Lawn (outdoor). **Attire:** Casual or Business

Tuesday, 29 November: Gala Dinner and Awards Night, Full Course Meal & Dancing Show at Grand Ballroom. **Attire:** Formal Black Tie/Business

Wednesday 30 November: Closing Social, Buffet Dinner/Entertainment Show at Lagoon Lawn (outdoor) - **Attire:** Casual or Business (to be confirmed)

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 November 10, 2022 – subject to change)

SESSION: **SummitPlenaryMonAM**

Mon. 28 Nov. 2022

Room: **Ballroom B**

Session Chair: Florian Kongoli

08:15: [EducationMonAM01] OS General Plenary

FLOGEN SUSTAINABILITY FRAMEWORK AND IT ROLE IN SUSTAINABLE DEVELOPMENT - Part 1

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

Paper Id: 548 [\[Abstract\]](#)

08:30: [SummitPlenaryMonAM02] OS General Plenary

Discovery of Nitric Oxide and Cyclic GMP Cell Signaling and Their Role in Drug Development

Ferid Murad¹; ¹Stanford University, Washington, United States;

Paper Id: 135 [\[Abstract\]](#)

09:00: [EducationMonAM03] OS General Plenary

Technological Entrepreneurship - Key to World Prosperity and Peace

Dan Shechtman¹; ¹Technion, Haifa, Israel;

Paper Id: 477 [\[Abstract\]](#)

09:30: [OxidativeMonAM04] OS General Plenary

Dawn of antioxidant therapy

Haruhiko Inufusa¹; ¹Division of Anti-Oxidant Research, Gifu University, Gifu, Japan;

Paper Id: 537 [\[Abstract\]](#)

10:00: [AdvancedMaterialsMonAM05] OS General Plenary

Materials for the future

Konstantin Novoselov¹; ¹University of Manchester, Manchester, United Kingdom;

Paper Id: 501 [\[Abstract\]](#)

10:30: [OxidativeMonAM06] OS General Plenary

The molecular links between ageing and neurodegeneration

Nektarios Tavernarakis¹; ¹European Research Council, Crete, Greece;

Paper Id: 523 [\[Abstract\]](#)

11:00 Break

SESSION: **SummitPlenaryTueAM**

Tue. 29 Nov. 2022

Room: **Ballroom B**

Session Chair: Florian Kongoli

09:15: [EnvironmentalTueAM01] OS General Plenary

SUSTAINABLE LEGACY: How SIPS and Flogen Sustainability Framework inspired the thoroughness of an Environmental Preservation project in the Brazilian Atlantic Rainforest Biome.

Alan Lopes¹; ¹Educator and Congressman of the State of Rio de Janeiro, Rio de Janeiro, Brazil;

Paper Id: 546 [\[Abstract\]](#)

09:30: [SummitPlenaryTueAM02] OS General Plenary

The exoplanet revolution

Didier Queloz¹; ¹University of Cambridge, Cambridge, United Kingdom;

Paper Id: 3 [\[Abstract\]](#)

09:00: [EnvironmentalTueAM03] OS General Plenary

The Nobel Laureate campaign supporting GMOs

Richard Roberts¹; ¹New England Biolabs, MA, United States;

Paper Id: 492 [\[Abstract\]](#)

09:30: [BatteryTueAM04] OS General Plenary

The Communications Revolution was enabled by lithium batteries, now taking on climate change

Stanley Whittingham¹; ¹, New York, United States;

Paper Id: 499 [\[Abstract\]](#)

10:00: [EducationTueAM05] OS General Plenary

Industrial Revolution 4.0 (Provisional)

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

Paper Id: 552 [\[Abstract\]](#)

10:30: [AdvancedMaterialsTueAM06] OS General Plenary

New and Advanced Materials and Sustainability Framework

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

Paper Id: 553 [\[Abstract\]](#)

11:00 Break

SESSION: **SummitPlenaryWedAM**

Wed. 30 Nov. 2022

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

Session Chair: Florian Kongoli

08:15: [EducationWedAM01] OS General Plenary

FLOGEN SUSTAINABILITY FRAMEWORK AND IT ROLE IN SUSTAINABLE DEVELOPMENT - Part 2

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

Paper Id: 549 [\[Abstract\]](#)

08:30: [covid19WedAM02] OS General Plenary

COVID-19 is also a Bioethical Challenge

Aaron Ciechanover¹; ¹Technion-Israel Institute of Technology, Haifa, Israel;

Paper Id: 521 [\[Abstract\]](#)

09:00: [MedicineWedAM03] OS General Plenary

Impact of basic research on innovation in health-related industries

Avram Hershko¹; ¹Technion Institute of Technology, Mont-Royal, Israel;

Paper Id: 520 [\[Abstract\]](#)

09:30: [EducationWedAM04] OS General Plenary

The Molecules of Life: DNA, RNA, Proteins History Placed in Perspective

Kurt Wuthrich¹; ¹ETH Zurich Switzerland and Scripps Research, USA, , Switzerland;

Paper Id: 554 [\[Abstract\]](#)

10:00: [covid19WedAM05] OS General Plenary

Impact of COVID and selected material upon students in the organic chemistry classroom

Donna Nelson¹; ¹University of Oklahoma USA, Oklahoma, United States;

Paper Id: 497 [\[Abstract\]](#)

10:30: [SolidStateChemistryWedAM06] OS General Plenary

Higher Efficiency Solar Cells and Hydrogen Gas Production from Water Splitting using Carbon-based Compounds and Materials

Luis Echegoyen¹; ¹American Chemical Society, El Paso, United States;

Paper Id: 526 [\[Abstract\]](#)

10:30 Break

Scientific Program

Oral Presentations

Monday

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: AdvancedMaterialsMonAM-R10 Mon. 28 Nov. 2022 / Room: Saitong <u>Session Chairs:</u> Fernand Marquis, <u>Session Monitor:</u> TBA	6th Intl. Symp. on New & Advanced Materials & Technologies for Energy, Environment, Health & Sustainable Development
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11:30: [AdvancedMaterialsMonAM01] OS Plenary

The Role of Transformative Materials and Technologies in Energy, Environment and Sustainability

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

Paper Id: 97 [\[Abstract\]](#)

11:55: [AdvancedMaterialsMonAM02] OS Plenary

STRUCTURE, PROPERTIES AND APPLICATION of MT-YBCO and bulk MgB₂-BASED SUPERCONDUCTORS

Tetiana Prikhna¹; Michael Eisterer²; Vladimir Sokolovskiy³; Viktor Moshchil⁴; Bernd Büchner⁵; Xavier Chaud⁶; Dmitriy Efremov⁵; Dirk Lindackers⁵; Fernand Marquis⁷; Semyon Ponomarov⁸; Vladimir Sverdun⁹; ¹V. Bakul Institute NASU, Kiev, Ukraine; ²Institute of Atomic and Subatomic Physics, TU Wien, Vienna, Austria, Vienna, Austria; ³Ben-Gurion University of the Negev, Beer-Sheva, Israel, Beer-Sheva 84105, Israel; ⁴Institute for Superhard Materials, Kiev, Ukraine; ⁵Leibniz-Institut für Festkörper- und Werkstofforschung Dresden e. V., Dresden, Germany; ⁶Laboratoire National des Champs Magnétiques Intenses (LNCMI/CNRS), Grenoble, France; ⁷San Diego State University, San Diego, United States; ⁸Institute of Semiconductor Physics, Kiev, Ukraine; ⁹Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kiev, Ukraine;

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

12:20: [AdvancedMaterialsMonAM03] OS Keynote

“Maturolife”, Metallization of Textiles To Make Urban Living Of Older People More Independent and fashionable

Andrew Copley¹; **Pascal Négre**²; ¹The Functional Materials Research Group, Coventry University, Coventry, United Kingdom; ²IPM², PARIS (075), France;

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

12:45: [AdvancedMaterialsMonAM04] OS

Structure and mechanical characteristics of high pressure sintered ZrB₂, HfB₂ and ZrB₂- TiB₂, ZrB₂-SiC composite materials.

Tetiana Prikhna¹; Anastasia Lokatkina²; Viktor Moshchil³; Pavlo Barvitskiy³; Olexandr Borymskiy⁴; Florian Kongoli⁵; Fernand Marquis⁶; ¹V. Bakul Institute NASU, Kiev, Ukraine; ²Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kyiv, Ukraine; ³Institute for Superhard Materials, Kiev, Ukraine; ⁴V. Bakul Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kyiv, Ukraine; ⁵FLOGEN Technologies, Mont-Royal, Canada; ⁶San Diego State University, San Diego, United States;
Paper Id: 286 [\[Abstract\]](#)

13:10 LUNCH

SESSION: AdvancedMaterialsMonPM1-R10 Mon. 28 Nov. 2022 / Room: Saitong <u>Session Chairs:</u> Tetiana Prikhna, <u>Session Monitor:</u> TBA	6th Intl. Symp. on New & Advanced Materials & Technologies for Energy, Environment, Health & Sustainable Development
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14:00: [AdvancedMaterialsMonPM105] OS

Aluminum dodecaboride - and boron carbide-based ceramics for extreme environments

Tetiana Prikhna¹; Pavlo Barvitskiy²; Viktor Moshchil²; Olena Prysiachna³; Myroslav Karpets²; Semyon Ponomaryov⁴; Volodymyr Kushch³; Valeriy Muratov⁵; Fernand Marquis⁶; ¹V. Bakul Institute NASU, Kiev, Ukraine; ²Institute for Superhard Materials, Kiev, Ukraine; ³Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kiev, Ukraine; ⁴Institute of Semiconductor Physics of the National Academy of Sciences of Ukraine (NASU), Kyiv, Ukraine; ⁵(1) Frantsevich Institute for Problems of Materials Science of the National Academy of Sciences of Ukraine, Kyiv, Ukraine; ⁶Naval Postgraduate School, Monterey, United States;
Paper Id: 285 [\[Abstract\]](#)

14:25: [AdvancedMaterialsMonPM106] OS Keynote

Mechanical Response of Lightweight Graphene Reinforced Aluminum Foams at High Strain Rates and High Temperature

Sanjeev Khanna¹; Akhouri Sinha¹; ¹University of Missouri, Columbia, United States;
Paper Id: 366 [\[Abstract\]](#)

14:50: [AdvancedMaterialsMonPM107] OS Keynote

THERMOCHEMICAL CONVERSION OF POLLUTION-CREATING BIOMASS INTO A SORBENT FOR WASTEWATER TREATMENT

Ali Bumajdad¹; Khan Mohammad Jakir Hossain¹; ¹Kuwait University, Safat, Kuwait;
Paper Id: 372 [\[Abstract\]](#)

15:15: [AdvancedMaterialsMonPM108] OS

**MAGNETIC PROPERTIES AND APPLICATIONS OF IRON OXIDES
NANOPOWDERS OBTAINED BY THE ELECTRO-EROSION DISPERSION AND
SINTERED FROM THEM BULKS AT HIGH-PRESSURE**

Tetiana Prikhna¹; Mykola Monastyrnov²; Bernd Büchner³; Fernand D. S. Marquis⁴; Florian Kongoli⁵; Sebastian Gaß³; Aniruddha Sathyadharma Prasad³; Ivan Soldatov³; Pavel Potapov³; Kai Neufeld³; Vitaliy Romaka³; Lars Giebeler³; Valeriy Shatilo⁶; Myroslav Karpets⁷; Anja Wolter Giraud³; Alexander Borimskiy⁸; ¹V. Bakul Institute NASU, Kiev, Ukraine; ²Open International University of Human Development Ukraine, Kiev, Ukraine; ³Leibniz-Institut für Festkörper- und Werkstofforschung Dresden e. V., Dresden, Germany; ⁴United Nano technologies (UNT) and Integrated Materials Technologies and Systems (IMTS), Rapid City, United States; ⁵FLOGEN Technologies, Mont-Royal, Canada; ⁶D.F. Chebotaryov Institute of Gerontology of the National Academy of Medical Sciences of Ukraine, Kyiv, Ukraine; ⁷Institute for Superhard Materials, Kiev, Ukraine; ⁸V. Bakul Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kyiv, Ukraine;
Paper Id: 394 [\[Abstract\]](#)

15:40 Break

SESSION: AdvancedMaterialsMonPM2- R10 Mon. 28 Nov. 2022 / Room: Saitong <u>Session Chairs:</u> Stanislaw Pietrzyk <u>Session Monitor:</u> TBA	6th Intl. Symp. on New & Advanced Materials & Technologies for Energy, Environment, Health & Sustainable Development
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15:55: [AdvancedMaterialsMonPM209] OS Keynote

VISCOSITY of MOLTEN SALTS to CAPTURE CO₂

Stanislaw Pietrzyk¹; Piotr Palimaka²; ¹AGH University of Science and Technology, Kraków, Poland; ²AGH University of Science and Technology, Krakow, Poland;
Paper Id: 390 [\[Abstract\]](#)

16:20: [AdvancedMaterialsMonPM210] OS

**Oxidation resistance of Ti-Al-C MAX phases-based bulk materials and coatings
at high-temperatures**

Tetiana Prikhna¹; Orest Ostash²; Alexander Kuprin³; Viktoriya Podhurska⁴; Thierry Cabioch⁵; Tetiana Serbenyuk⁶; Viktor Moshchil⁷; Vladimir Sverdun⁶; Myroslav Karpets⁷; Semyon Ponomarov⁸; Alexandra Starostina⁶; Fernand D. S. Marquis⁹; Florian Kongoli¹⁰; ¹V. Bakul Institute NASU, Kiev, Ukraine; ²Karpenko Physical-Mechanical Institute of the National Academy of Sciences of Ukraine, Lviv, Ukraine; ³National Science Center Kharkov Institute of Physics and Technology, Kharkov, Ukraine; ⁴Physico-Mechanical Institute of the National Academy of Sciences of Ukraine, Lviv, Ukraine; ⁵Universite de Poitiers, CNRS/Laboratoire PHYMAT, Chasseneuil Futuroscope Cedex, France; ⁶Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kiev, Ukraine; ⁷Institute for Superhard

Materials, Kiev, Ukraine; ⁸Institute of Semiconductor Physics, Kiev, Ukraine; ⁹United Nano technologies (UNT) and Integrated Materials Technologies and Systems (IMTS), Rapid City, United States; ¹⁰FLOGEN Technologies, Mont-Royal, Canada;
Paper Id: 284 [\[Abstract\]](#)

16:45: [AdvancedMaterialsMonPM211] OS Keynote

Enhanced conductivity and sensitivity of ceria based thin film for room temperature humidity sensing

Arijeta Bafti¹; Luka Pavić²; Ivana Panžić¹; **Vilko Mandić³**; Stanislav Kurajica¹; Ivana Katarina Munda¹; Katarina Mužina¹; ¹Faculty of Chemical Engineering and Technology, Zagreb, Croatia; ²Ruder Bošković Institute, Zagreb, Croatia; ³Faculty of Chemical Engineering and Technology, Department of Inorganic Chemical Technology and Non-metals, Zagreb, Croatia;

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

17:10: [AdvancedMaterialsMonPM212] OS

Development of Functional Materials for Energy Conversion Applications

Ahsan Ul Haq Qurashi¹; ¹Khalifa University, Abu Dhabi, United Arab Emirates;

Paper Id: 432 [\[Abstract\]](#)

17:35 Break

SESSION: AdvancedMaterialsMonPM3-R10 Mon. 28 Nov. 2022 / Room: Saitong <u>Session Chairs:</u> Vilko Mandić; <u>Session Monitor:</u> TBA	6th Intl. Symp. on New & Advanced Materials & Technologies for Energy, Environment, Health & Sustainable Development
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17:50: [AdvancedMaterialsMonPM313] OS

Zero "dead-weight" composite cathode application in all-solid-state Li-metal batteries with industrial relevant areal capacities

Qi Xu¹; Shicheng Yu²; Anna Windmüller³; Hermann Tempel³; Shibabrata Basak³; Hans Kungl³; Rüdiger-a. Eichel³; ¹Research Center Juelich, Jülich, Germany; ²Research center Jülich, Jülich, Germany; ³Research center Jülich, Juelich, Germany;

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

18:15: [AdvancedMaterialsMonPM314] OS

Sorption properties of healthy vegetable snacks preserved by freeze-drying

Agnieszka Ciurzyńska¹; Monika Janowicz²; ¹Warsaw University of Life Sciences - SGGW, Warsaw, Poland; ²Warsaw University of Life Sciences, Warsaw, Poland;

Paper Id: 114 [\[Abstract\]](#)

19:00 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: EnergyMonAM-R11	Mauntz International Symposium (7th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, & storage for all energy production technologies; Energy conservation)
Mon. 28 Nov. 2022 / Room: Game	
<u>Session Chairs:</u> Leendert Florusse; <u>Session Monitor:</u> TBA	

11:30: [EnergyMonAM01] OS Plenary

Online Condition Monitoring of Engines by a Deep Analysis of the Electrical Conductivity and Relative Permittivity Changes of the Lubricant

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

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

11:55: [EnergyMonAM02] OS Plenary

REDESIGNING THE ELECTRICITY MARKET FOR RENEWABLE GENERATION

Leendert Florusse¹; ¹rooftop energy, rotterdam, Netherlands;

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

12:20: [EnergyMonAM03] OS

ONLINE CONDITION MONITORING OF GEARBOXES BY A DEEP ANALYSIS OF THE ELECTRICAL CONDUCTIVITY AND RELATIVE PERMITTIVITY CHANGES OF THE LUBRICANT

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

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

12:45: [EnergyMonAM04] OS

Deep online analysis of dielectric parameters of insulation oils: Identification of critical operation conditions of high voltage transformers for reduction of failure rates

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

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

13:10 LUNCH

SESSION: EnergyMonPM1-R11	Mauntz International Symposium (7th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, & storage for all energy production technologies; Energy conservation)
Mon. 28 Nov. 2022 / Room: Game	
<u>Session Chairs:</u> Manfred Mauntz; <u>Session Monitor:</u> TBA	

14:00: [EnergyMonPM105] OL Plenary

PREDICTIVE MAINTENANCE MANAGEMENT SYSTEM FOR PRODUCTION-, PROCESS- AND THE ENERGY INDUSTRY

Tamer Turna¹; ¹BLOOM ENERGY CORPORATION, CA, United States;

Paper Id: 100 [\[Abstract\]](#)

14:25: [EnergyMonPM106] OL

Mobile ‘Floating Or Trailer’ Type Power Generation Technologies – The Fast Solution To Lower Carbon Footprint

Tamer Turna¹; ¹BLOOM ENERGY CORPORATION, CA, United States;

Paper Id: 108 [\[Abstract\]](#)

14:50: [EnergyMonPM107] OL

Solid Oxide Fuel Cells, A Highly Efficient and Sustainable Electricity Generation Technology

Tamer Turna¹; ¹BLOOM ENERGY CORPORATION, CA, United States;

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

15:15: [EnergyMonPM108] OL

Solid Oxide Electrolyzer Cells, A Highly Efficient and Sustainable Hydrogen Generation Technology

Tamer Turna¹; ¹BLOOM ENERGY CORPORATION, CA, United States;

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

15:40 Break

SESSION: EnergyMonPM2-R11	Mauntz International Symposium (7th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, & storage for all energy production technologies; Energy conservation)
Mon. 28 Nov. 2022 / Room: Game	
<u>Session Chairs:</u> Leo Eskin; <u>Session Monitor:</u> TBA	

15:55: [EnergyMonPM209] OS

The First Process-Oriented Instrument for the Analysis of Ultra-Trace Level Permanent Gases, NMHC and Sulfur in Fuel-Grade Hydrogen

Manfred Mauntz¹; Jorn Peuser¹; Yves Gamache²; André Lamontagne²; Marc-antoine Langevin²; ¹cmc Instruments GmbH, Eschborn, Germany; ²ASDevices, Thetford, Canada;

Paper Id: 488 [\[Abstract\]](#)

16:20: [EnergyMonPM210] OS Plenary

Using Physics-Based Modeling (Digital Twin) Methods and Machine Learning to Improve Energy Efficiency and Reduce Maintenance for the Global Cold Chain

Leo Eskin¹; Harvey Rubin²; Bhaskar Abhiraman³; Riley Fotis⁴; ¹Snofox Sciences, Inc., Darnestown, United States; ²Perelman School of Medicine, University of Pennsylvania, Philadelphia, United States; ³School of Engineering and Applied Science, University of Pennsylvania, Morristown, United States; ⁴Department of Physics, University of Pennsylvania, Philadelphia, United States;

Paper Id: 437 [\[Abstract\]](#)

16:45: [EnergyMonPM211] OS

Effect of Substrate Concentration on Biohydrogen Production by Clostridium manihotivorum CT4 in Batch Culture

Saengmany Phommakod^{1,0}; Warinthorn Songkasiri²; ¹School of Bioresources and Technology, King Mongkut's University of Technology Thonburi, Tha Kham, Bang Khun Thian, Thailand; ²National Center for Genetic Engineering and Biotechnology (BIOTEC), National Science and Technology Development Agency (NSTDA), Pathum Thani, Thailand;

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

17:10: [EnergyMonPM212] OS

Some of the Basic Aspects of Transition State Theory (TST) of Bimolecular Reaction Rates Revisited with an Input From Nonequilibrium Thermodynamics

Anil A. Bhalekar¹; Bjarne Andresen²; ¹Department of Chemistry, R. T. M. Nagpur University, NAGPUR, India; ²University of Copenhagen, COPENHAGEN, Denmark;

Paper Id: 133 [\[Abstract\]](#)

17:35 Break

SESSION: EnergyMonPM3-R11	Mauntz International Symposium (7th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, & storage for all energy production technologies; Energy conservation)
Mon. 28 Nov. 2022 / Room: Game	
<u>Session Chairs:</u> Greg Baiden; <u>Session Monitor:</u> TBA	

17:50: [EnergyMonPM313] OS

A Revisit to the Local Thermodynamic Equilibrium Assumption of Nonequilibrium Thermodynamics

Anil A. Bhalekar¹; Bjarne Andresen²; ¹Department of Chemistry, R. T. M. Nagpur University, NAGPUR, India; ²University of Copenhagen, COPENHAGEN, Denmark; Paper Id: 175 [\[Abstract\]](#)

18:15: [EnergyMonPM314] OL

META Industrial Operations in Industry 4.0 with ROAR as an Underground Mining Example

Greg Baiden¹; ¹Penguin Automated Systems Inc., Naughton, Canada; Paper Id: 360 [\[Abstract\]](#)

19:00 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: OxidativeMonAM-R1	Yoshikawa International Symposium (2nd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings)
Mon. 28 Nov. 2022 / Room: Ballroom B	
<u>Session Chairs:</u> Toshikazu Yoshikawa ; HARUHIKO INUFUSA ; <u>Session Monitor:</u> TBA	

11:30: [OxidativeMonAM01] OS Plenary

From medicine to free radical research

Toshikazu Yoshikawa¹; ¹Louis Pasteur Center, Kyoto, Japan; Paper Id: 522 [\[Abstract\]](#)

11:55: [OxidativeMonAM02] OS Plenary

Antioxidant treatment for Sleep Apnea

Haruhiko Inufusa¹; Fuhua Yang¹; Naomi Okada²; Toshikazu Yoshikawa³; ¹Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-Oxidant Research, Life Science Research Center, Gifu University, Gifu, Japan; ³Louis Pasteur Center, Kyoto, Japan;

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

12:20: [OxidativeMonAM03] OS

The antioxidant Twendee X and cancer treatment

Naomi Okada¹; Fuhua Yang²; Taku Nakashima³; Haruhiko Inufusa²; Toshikazu Yoshikawa⁴; ¹Division of Anti-Oxidant Research, Life Science Research Center, Gifu University, Gifu, Japan; ²Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ³Department of Molecular and Internal Medicine, Graduate school of Biomedical & Health sciences, Hiroshima University, Hiroshima, Japan; ⁴Louis Pasteur Center, Kyoto, Japan;

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

12:45: [OxidativeMonAM04] OS Keynote

Oxidative stress is major cause of allergic reaction in COVID-19 infection

Haruhiko Inufusa¹; Fuhua Yang¹; Naomi Okada²; Toshikazu Yoshikawa³; ¹Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-Oxidant Research, Life Science Research Center, Gifu University, Gifu, Japan; ³Louis Pasteur Center, Kyoto, Japan;

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

13:10 LUNCH

SESSION: OxidativeMonPM1-R1 Mon. 28 Nov. 2022 / Room: Ballroom B Session Chairs: Fuhua YANG ; Yoshiaki Harakawa ; Session Monitor: TBA	Yoshikawa International Symposium (2nd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings)
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14:00: [OxidativeMonPM105] OS Plenary

Antioxidant treatment for infertility

Haruhiko Inufusa¹; Fuhua Yang¹; Naomi Okada²; Toshikazu Yoshikawa³; ¹Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-Oxidant Research, Life Science Research Center, Gifu University, Gifu, Japan; ³Louis Pasteur Center, Kyoto, Japan;

Paper Id: 122 [\[Abstract\]](#)

14:25: [OxidativeMonPM106] OS

Enterococcus faecalis FK-23 may improve the bactericidal activity of human neutrophils via ROS production and phagocytosis

Hiroshi Ichikawa¹ ; Ryoga Higaki² ; Yukiko Minamiyama³ ; Toshikazu Yoshikawa⁴ ; ¹Major of Medical Life Systems, Graduate School of Life and Medical Sciences, Doshisha University, Kyotanabe City, Japan; ²Major of Medical Life Systems, Graduate School of Life and Medical Sciences, Doshisha University, Kyotanabe City, Kyoto, Japan; ³Kyoto Prefectural University, KYoto, Japan; ⁴Louis Pasteur Center, Kyoto, Japan;

Paper Id: 104 [\[Abstract\]](#)

14:50: [OxidativeMonPM107] OS

Nanoelectrodes for Intracellular Measurements of Reactive Oxygen and Nitrogen Species in Single Living Cells

Christian Andre Amatore¹ ; Keke Hu² ; Xiaoke Yang³ ; Xin-wei Zhang⁴ ; Yan-ling Liu³ ; Alexander Oleinick⁵ ; Irina Svir⁶ ; Michael V Mirkin⁷ ; Wei-hua Huang³ ; ¹CNRS & Ecole Normale Supérieure; Xiamen University, Paris, France; ²Göteborg University, Gothenburg, Sweden; ³Wuhan University, Wuhan, China; ⁴Key Laboratory of Analytical Chemistry for Biology and Medicine, College of Chemistry and Molecular Sciences, Wuhan, China; ⁵CNRS, Paris, France; ⁶Ecole Normale Supérieure, Department of Chemistry, PARIS, France; ⁷Department of Chemistry and Biochemistry, Queens College-CUNY, Flushing, United States;

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

15:15: [OxidativeMonPM108] OS

Effect of antioxidant Twendee X on radiation-induced oxidative stress

Yoshiaki Harakawa¹ ; Fuhua Yang² ; Toshikazu Yoshikawa³ ; Haruhiko Inufusa² ; ¹Division of Anti-oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ³Louis Pasteur Center, Kyoto, Japan;

Paper Id: 418 [\[Abstract\]](#)

15:40 Break

SESSION: OxidativeMonPM2-R1	Yoshikawa International Symposium (2nd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings)
Mon. 28 Nov. 2022 / Room: Ballroom B	
<u>Session Chairs:</u> Alexander Oleinick ; Christian Andre Amatore ; <u>Session Monitor:</u> TBA	

15:55: [OxidativeMonPM209] OS Plenary

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

Christian Andre Amatore¹ ; ¹CNRS & Ecole Normale Supérieure; Xiamen University, Paris, France;

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

16:20: [OxidativeMonPM210] OS

Nanometer-sized electrochemical probes for intracellular measuring ROS/RNS in single cells and cellular organelles

Christian Andre Amatore¹; Keke Hu²; **Alexander Oleinick**³; Irina Svir⁴; Wei-hua Huang⁵; Yan-ling Liu⁶; ¹CNRS & Ecole Normale Supérieure; Xiamen University, Paris, France; ²Göteborg University, Gothenburg, Sweden; ³CNRS, Paris, France; ⁴Ecole Normale Supérieure, Department Chemistry, PARIS, France; ⁵Wuhan University, Wuhan, China;

Paper Id: 445 [\[Abstract\]](#)

16:45: [OxidativeMonPM211] OS

Modelling detection of key biomolecules with enzymatic electrodes: Diffusion towards randomly distributed active sites

Giovanni Pireddu¹; Irina Svir²; **Alexander Oleinick**³; **Christian Andre Amatore**⁴; ¹CNRS, Ecole Normale Supérieure, Sorbonne University, Paris, France; ²Ecole Normale Supérieure, Department Chemistry, PARIS, France; ³CNRS, Paris, France; ⁴CNRS & Ecole Normale Supérieure; Xiamen University, Paris, France;

Paper Id: 446 [\[Abstract\]](#)

17:10: [OxidativeMonPM212] OS

Modeling of quantitative nano-amperometric measurement of sub-quantal glutamate release by living neurons

Giovanni Pireddu¹; Xiaoke Yang²; Fu-li Zhang²; Yan-ling Liu²; Irina Svir³; **Alexander Oleinick**⁴; Wei-hua Huang²; **Christian Andre Amatore**⁵; ¹CNRS, Ecole Normale Supérieure, Sorbonne University, Paris, France; ²Wuhan University, Wuhan, China; ³Ecole Normale Supérieure, Department Chemistry, PARIS, France; ⁴CNRS, Paris, France; ⁵CNRS & Ecole Normale Supérieure; Xiamen University, Paris, France;

Paper Id: 447 [\[Abstract\]](#)

17:35 Break

SESSION: OxidativeMonPM3-R1	Yoshikawa International Symposium (2nd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings)
Mon. 28 Nov. 2022 / Room: Ballroom B	
Session Chairs: Christian Andre Amatore; Session Monitor: TBA	

17:50: [OxidativeMonPM313] OS Plenary

Cellular energy homeostasis in neurodegeneration and ageing

Nektarios Tavernarakis¹; ¹European Research Council, Crete, Greece;

Paper Id: 504 [\[Abstract\]](#)

18:15: [OxidativeMonPM314] OS Plenary

Role of bacterial antioxidant defense in their resistance to bactericidal antibiotics

A.c. Matin¹; ¹Stanford University, Stanford, United States;

Paper Id: 298 [\[Abstract\]](#)

19:00 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: SISAMMonAM-R2	Mizutani International Symposium (6th Intl. Symp. on Science of Intelligent & Sustainable Advanced Materials (SISAM))
Mon, 28 Nov. 2022 / Room: Ballroom A	
<u>Session Chairs:</u> Jean-Marie Dubois ; <u>Session Monitor:</u> TBA	

11:30: [SISAMMonAM01] OS

SISAM 2022: a Brief Introduction to the Symposium in the Honour of Prof. Uichiro Mizutani

Jean-marie Dubois¹; ¹Institut Jean Lamour, Nancy, France;

Paper Id: 461 [\[Abstract\]](#)

11:55: [SISAMMonAM02] OS Plenary

The theoretical Hume-Rothery electron concentration rule in designing new functional materials with a pseudogap across the Fermi level (Part 1)

Uichiro Mizutani¹; Hirokazu Sato²; ¹Nagoya Industrial Science Research Institute, Nagoya, Japan; ²Aichi University of Education, Kariya-shi, Japan;

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

12:20: [SISAMMonAM03] OS Plenary

The theoretical Hume-Rothery electron concentration rule in designing new functional materials with a pseudogap across the Fermi level (Part 2)

Uichiro Mizutani¹; Hirokazu Sato²; ¹Nagoya Industrial Science Research Institute, Nagoya, Japan; ²Aichi University of Education, Kariya-shi, Japan;

Paper Id: 451 [\[Abstract\]](#)

SESSION: SISAMMonPM1-R2	Mizutani International Symposium (6th Intl. Symp. on Science of Intelligent & Sustainable Advanced Materials (SISAM))
Mon. 28 Nov. 2022 / Room: Ballroom A	
Session Chairs: Ryoji Asahi ; Session Monitor: TBA	

14:00: [SISAMMonPM105] OS Plenary
ABOUT THE E/A RATIO: HOW IT HELPS UNDERSTANDING SOME APPLIED PROPERTIES OF CMAs (Part 1)

Jean-marie Dubois¹; ¹Institut Jean Lamour, Nancy, France;
 Paper Id: 404 [\[Abstract\]](#)

14:25: [SISAMMonPM106] OS Plenary
ABOUT THE E/A RATIO: HOW IT HELPS UNDERSTANDING SOME APPLIED PROPERTIES OF CMAs (Part 2)

Jean-marie Dubois¹; ¹Institut Jean Lamour, Nancy, France;
 Paper Id: 452 [\[Abstract\]](#)

14:50: [SISAMMonPM107] OS Invited
Alloy design based on first-principles calculations from deductive to inductive approach

Ryoji Asahi¹; ¹Nagoya University, Chikusa-ku, Nagoya, Japan;
 Paper Id: 414 [\[Abstract\]](#)

15:15: [SISAMMonPM108] OS Invited
Huge enhancement of thermoelectric dimensionless figure of merit in (Ag,Cu)₂(S,Se,Te) and their electric power generation

Tsunehiro Takeuchi¹; ¹Toyota Technological Institute, Nagoya, Japan;
 Paper Id: 377 [\[Abstract\]](#)

15:40 Break

SESSION: SISAMMonPM2-R2	Mizutani International Symposium (6th Intl. Symp. on Science of Intelligent & Sustainable Advanced Materials (SISAM))
Mon. 28 Nov. 2022 / Room: Ballroom A	
Session Chairs: Tomoyuki Homma ; Session Monitor: TBA	

15:55: [SISAMMonPM209] OS Invited
Pseudogap Engineering of Fe₂VAl Thermoelectric Heusler Compounds

Yoichi Nishino¹; ¹Nagoya Institute of Technology, Nagoya, Japan;
 Paper Id: 379 [\[Abstract\]](#)

16:20: [SISAMMonPM210] OS Invited

INTERPRETATION of TEMPERATURE DEPENDENCE of THERMOELECTRIC PROPERTIES in FeS₂ by FIRST PRINCIPLE CALCULATIONS

Tomoyuki Homma¹; **Uichiro Mizutani**²; Hirokazu Sato³; Manabu Inukai⁴; Kakeru Masaki¹; Makoto Nanko¹; Masatoshi Takeda¹; ¹Nagaoka University of Technology, Nagaoka, Japan; ²Nagoya Industrial Science Research Institute, Nagoya, Japan; ³Aichi University of Education, Kariya-shi, Japan; ⁴Riken, Wako, Japan;

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

16:45: [SISAMMonPM211] OS Invited

Electronic structures of complex phases : from bulks to surfaces

Emilie Gaudry¹; ¹Lorraine University, Nancy, France;

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

17:10: [SISAMMonPM212] OS Invited

Quasicrystals in Two Dimensions: From Metals To Molecules And Oxides.

Vincent Fournée¹; ¹Institut Jean Lamour, CNRS-Université de Lorraine, NANCY, France;

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

17:35 Break

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: IronMonAM-R3	Poveromo International Symposium (8th Intl. Symp. on Advanced Sustainable Iron & Steel Making)
Mon. 28 Nov. 2022 / Room: Arcadia 1	
Session Chairs: Yakov Gordon ; Session Monitor: TBA	

11:30: [IronMonAM01] OL Plenary

Evolution of Ironmaking Raw Materials

Joseph Poveromo¹; ¹Raw Materials & Ironmaking Global Consulting, Bethlehem, United States;

Paper Id: 29 [\[Abstract\]](#)

11:55: [IronMonAM02] OL Invited

DRI and the Pathway to Carbon-Neutral Steelmaking: Iron Ore Challenges
Chris Barrington¹; **Joseph Poveromo**²; ¹International Iron Metallurgy Association, Camberley, United Kingdom; ²Raw Materials & Ironmaking Global Consulting, Bethlehem, United States;

Paper Id: 368 [\[Abstract\]](#)

12:20: [IronMonAM03] OS Plenary

FLOGEN CONTOP – AN INTEGRATED DESIGN, DECISION-MAKING, CONTROL, OPTIMIZATION AND AUTOMATION SYSTEM FOR IRON ORE MANAGEMENT AND BLAST FURNACES PROCESSES

Florian Kongoli¹; Marcos De Souza²; ¹FLOGEN Technologies, Mont-Royal, Canada; ²FLOGEN Technologies Inc, Sao Paulo, Brazil;

Paper Id: 547 [\[Abstract\]](#)

12:45: [IronMonAM04] OS

Control and Optimization of FeSiMn Alloy Production through FLOGEN CONTOP System

Thamara Rodrigues Silva¹; Igor Tiago Santos¹; Josenilson Braga Maia¹; Rodrigo Junqueira Dos Santos Santos¹; Marcos De Souza²; Redouane Merdjani³; Florian Kongoli⁴; ¹Maringa, Sao Paulo, Brazil; ²FLOGEN Technologies Inc, Sao Paulo, Brazil; ³FLOGEN TECHNOLOGIES INC., Mont-Royal, Canada; ⁴FLOGEN Technologies, Mont-Royal, Canada;

Paper Id: 550 [\[Abstract\]](#)

13:10 LUNCH

SESSION: IronMonPM1-R3	Poveromo International Symposium (8th Intl. Symp. on Advanced Sustainable Iron & Steel Making)
Mon. 28 Nov. 2022 / Room: Arcadia 1	
<u>Session Chairs:</u> Andrey Dmitriev ; <u>Session Monitor:</u> TBA	

14:00: [IronMonPM105] OS Plenary

Rising and Failure of Gas Based Direct Reduction Processes

Yakov Gordon¹; ¹Hatch, Mississauga, Canada;

Paper Id: 503 [\[Abstract\]](#)

14:25: [IronMonPM106] OS

MODERNIZATION OF DRI SHAFT FURNACES TO ENHANCE PROCESS PERFORMANCE AND IMPROVE PRODUCT QUALITY

Yakov Gordon¹; ¹Hatch, Mississauga, Canada;

Paper Id: 502 [\[Abstract\]](#)

14:50: [IronMonPM107] OS

CALCULATION OF THE COHESION ZONE IN A BLAST FURNACE TAKING INTO ACCOUNT THE METALLURGICAL CHARACTERISTICS OF IRON ORE MATERIALS

Andrey Dmitriev¹; Galina Vitkina²; Roman Alektorov¹; Elena Vyaznikova¹; ¹Institute of Metallurgy of the Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russian Federation; ²Institute of Metallurgy of Ural Branch of Russian, Amundsen st., Russia;

Paper Id: 2 [\[Abstract\]](#)

15:15: [IronMonPM108] OS

Banking And Revival of E & C Blast Furnace Of Tata Steel Ltd With Application Of Oxy Lance In 2020.

Biswajit Seal¹; Dushyant Kumar²; G.s.r. Murthy ³; Mayank Tiwari⁴; Shivendra Kumar Dubey⁵; Dinesh Chandra Viswakarma⁵; Subal Kumar Saha⁵; ¹Tata Steel Ltd, India, Jamshedpur, India; ²Tata Steel Ltd, Jamshedpur, India; ³Tata Steel Ltd., Jamshedpur, India; ⁴TATA STEEL LTD, Jamshedpur, India; ⁵TATA STEEL LTD, JAMSHEDPUR, India;

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

15:40 Break

SESSION: IronMonPM2-R3	Poveromo International Symposium (8th Intl. Symp. on Advanced Sustainable Iron & Steel Making)
Mon. 28 Nov. 2022 / Room: Arcadia 1	
<u>Session Chairs:</u> Dario Pauluzzi ; <u>Session Monitor:</u> TBA	

15:55: [IronMonPM209] OS Plenary

Sustainable Direct Reduced Iron with ENERGIRON Technology

Dario Pauluzzi¹; Ashton Hertrich Giraldo¹; Alessandro Martinis²; ¹Danieli, Buttrio, Italy; ²Danieli & Officine Meccaniche, Premariacco, Italy;

Paper Id: 83 [\[Abstract\]](#)

16:20: [IronMonPM210] OS

Implementation of BF Technology with co-injection of natural gas and PCI at NLMK, Russia

Sergei Filatov¹; Yakov Gordon²; Sergei Zagainov³; Sergei Myasoedov⁴; Andrei Sorokin⁵; Vladislav Listopadov⁵; Sergei Grachev⁵; ¹Nowo-Lipets Iron & Steel Works, Lipets, Russian Federation; ²Hatch, Mississauga, Canada; ³Ural Federal University, Ekaterinburg, Russian Federation; ⁴NLMK, Russia, Lipetsk, Russian Federation; ⁵NLMK, Lipetsk, Russian Federation;

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

16:45: [IronMonPM211] OS

INFLUENCE OF IRREGULARITY OF HOT METAL AND SLAG TAPPING ON BLAST FURNACE PERFORMANCE AT NTMK-EVRAZ

Yakov Gordon¹; Sergei Zagainov²; Vladimir Panteleev^{3,0}; Mikhail Polovets²; ¹Hatch, Mississauga, Canada; ²Ural Federal University, Ekaterinburg, Russian Federation; ³Ural Federal University, Ekaterinburg, Russian Federation; Paper Id: 44 [\[Abstract\]](#)

17:10: [IronMonPM212] OS

MASS TRANSFER RATE BETWEEN DIFFERENT PHASES RELATED TO SUSPENSION PATTERN OF LIGHT OR HEAVY DENSITY OF SOLID/LIQUID IN A MECHANICALLY STIRRED VESSEL

Yoshiei Kato¹; ¹Okayama University, Okayama, Japan; Paper Id: 69 [\[Abstract\]](#)

17:35 Break

SESSION: IronMonPM3-R3	Poveromo International Symposium (8th Intl. Symp. on Advanced Sustainable Iron & Steel Making)
Mon. 28 Nov. 2022 / Room: Arcadia 1	
<u>Session Chairs:</u> Xueliang Yuan; <u>Session Monitor:</u> TBA	

17:50: [IronMonPM313] OL Plenary

SSAB'S ACCELERATED TRANSFORMATION TO FOSSIL FREE STEEL WITH THE HYBRIT TECHNOLOGY

Martin Pei¹; ¹, Stockholm, Sweden; Paper Id: 491 [\[Abstract\]](#)

18:15: [IronMonPM314] OS

Integrated assessment of sintering flue gas ultra-low emission treatment technologies of the iron and steel industry

Xueliang Yuan¹; Mengyue Liu¹; Yue Li¹; Lin Cui¹; ¹Shandong University, Jinan, China; Paper Id: 370 [\[Abstract\]](#)

19:00 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: PhysicsMonAM-R4	Virk International Symposium (Intl Symp on Physics, Technology & Interdisciplinary Research for Sustainable Development)
Mon. 28 Nov. 2022 / Room: Arcadia 3	
<u>Session Chairs:</u> Gurtej Sandhu <u>Session Monitor:</u> TBA	

11:30: [PhysicsMonAM01] OS Plenary

Groundwater Contamination due to Uranium and Heavy Metals and its Mitigation for Sustainable Development of Punjab State, India

Hardev Singh Virk¹; ¹SGGS World University Fatehgarh Sahib (Punjab), India, SURREY, Canada;

Paper Id: 279 [\[Abstract\]](#)

11:55: [PhysicsMonAM02] OS Plenary

The Future of Memory Chip technology

Gurtej Sandhu¹; ¹micron Technologv, Boise, United States;

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

12:20: [PhysicsMonAM03] OL Plenary

Considerations of Environment and Growth for Sustainable Development

Sukhmander Singh¹; ¹Santa Clara University, Santa Clara, United States;

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

12:45: [PhysicsMonAM04] OS Plenary

Recovery of Pre-seismic Gas Flow Anomalous Signals at Deep Boreholes as a Proxy for Investigating Tectonic Activity

Hovav Zafir¹; Susana Barbosa²; Danielle Ilzyer³; Gustavo Haquin⁴; Noam Weisbrod⁵; Zeev Zalevsky⁶; ¹Bar Ilan University, Israel, Ramat-Gan, Israel; ²Universidade do Porto Portugal, Porto, Portugal; ³Soreq NRC, Yavne, Israel; Yavne, Israel; ⁴The Jacob Blaustein Institutes for Desert Research, Sde-Boker, Israel; ⁵Ben-Gurion University of the Negev, Israel, Sde-Boker, Israel; ⁶Faculty of Engineering, Bar Ilan University, Israel, Ramat-Gan, Israel;

Paper Id: 243 [\[Abstract\]](#)

13:10 LUNCH

SESSION:
PhysicsMonPM1-R4

Mon. 28 Nov. 2022 /
Room: **Arcadia 3**

Session Chairs: Hovav Zafrir; Session Monitor: TBA

**Virk International Symposium (Intl Symp
on Physics, Technology & Interdisciplinary
Research for Sustainable Development)**

14:00: [PhysicsMonPM105] OL

Earthquake Precursory Studies Using Radon Time Series Data in Taiwan: An Overview

Vivek Walia¹; Arvind Kumar²; ¹National Center for Research on Earthquake Engineering, NARL, Taipei, Taiwan, Taipei, Taiwan; ²National Center for Research on Earthquake Engineering, NARL., Taipei, Taiwan;
Paper Id: 280 [\[Abstract\]](#)

14:25: [PhysicsMonPM106] OL

Nobel Laureate Peter Kapitza

Bhadra Tuladhar¹; ¹Kathmandu University, Kavre, Nepal;
Paper Id: 314 [\[Abstract\]](#)

14:50: [PhysicsMonPM107] OL

Solvent Dependent Morphological and Photo-catalytic behaviour of CuS Nanostructures

Amanjot Kaur¹; **Karamjit Singh**¹; ¹Punjabi University, Patiala (India), Patiala, India;
Paper Id: 255 [\[Abstract\]](#)

15:15: [PhysicsMonPM108] OL

Synthesis and Characterizations of Neodymium Doped Alumino-Phosphate Glasses for IR Lasers

Jaswinder Singh^{1,0}; Tejbir Singh²; ¹Department of Physics, Sri Guru Granth Sahib World University, Fatehgarh Sahib, Punjab, Punjab, India; ², Punjab, India;
Paper Id: 534 [\[Abstract\]](#)

15:40 Break

SESSION: PhysicsMonPM2-R4	Virk International Symposium (Intl Symp on Physics, Technology & Interdisciplinary Research for Sustainable Development)
Mon. 28 Nov. 2022 / Room: Arcadia 3	
<u>Session Chairs:</u> Hardev Singh Virk, <u>Session Monitor:</u> TBA	

15:55: [PhysicsMonPM209] OS Invited

Ion Irradiation of Polymer Metal Composite for Electrical and Structural Engineering Applications

N.I. Singh¹; Dolly Singh¹; Anjum Qureshi²; ¹M. S. University of Baroda, Vadodara, India; ²Sabanci University, Istanbul, Turkey;

Paper Id: 240 [\[Abstract\]](#)

16:20: [PhysicsMonPM210] OL

Structural Analysis And Shielding Parameters Of NaSrB : Eu3+ Glass System

Supreet Pal Singh¹; Dinesh Kumar¹; ¹Punjabi University Patiala, Patiala, India;

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

16:45: [PhysicsMonPM211] OL

Recent Developments in SSNTDs for the Accurate Assessment of Natural Radioactive Contamination Levels in Environs for the Assessment of Health Risks

Rohit Mehra¹; ¹Dr B R Ambedkar National Institute of Technology, Jalandhar, Jalandhar, India;

Paper Id: 540 [\[Abstract\]](#)

17:10: [PhysicsMonPM212] OL

FAKE MEASUREMENTS YIELDING REAL COLLAPSES

María Esther Burgos¹; ¹, Buenos Aires, Argentina;

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

17:35 Break

SESSION: PhysicsMonPM3-R4	Virk International Symposium (Intl Symp on Physics, Technology & Interdisciplinary Research for Sustainable Development)
Mon. 28 Nov. 2022 / Room: Arcadia 3	
<u>Session Chairs:</u> Hardev Singh Virk; <u>Session Monitor:</u> TBA	

17:50: [PhysicsMonPM313] OL

Distribution of uranium and fluoride and their relationship with hydrogeochemical processes in groundwater of Muktsar, Punjab, India

Prafulla Kumar Sahoo¹; **Hardev Singh Virk**²; Umakant Chaudhari³; ¹Department of Environmental Science and Technology, Central University of Punjab, V.P.O. Ghudda, 151401 Bathinda, India, Punjab, India; ²SGGS World University Fatehgarh Sahib (Punjab), India, SURREY, Canada; ³Central University of Punjab, V.P.O. Ghudda, 151401 Bathinda, India, Punjab, India;

Paper Id: 533 [\[Abstract\]](#)

18:15: [PhysicsMonPM314] OL

Radiation Physics for Sustainable Development

Devinder Pal Singh¹; ¹Acoustics Research Center, Ontario, Canada;

Paper Id: 543 [\[Abstract\]](#)

19:00 Dinner

SESSION: RecyclingMonAM-R5	Kolomaznik International Symposium (8th Intl. Symp. on Sustainable Materials Recycling Processes & Products)
Mon. 28 Nov. 2022 / Room: Arcadia 2	
<u>Session Chairs:</u> Michaela Barinova; <u>Session Monitor:</u> TBA	

11:30: [RecyclingMonAM01] OS Plenary

Practical Experience from the Design of Recycling Technology Projects

Karel Kolomaznik¹; **Juan Carlos Beltran Prieto**²; ¹Tomas Bata University in Zlin, Faculty of Applied Informatics, CEBIA-Tech, Zlin, Czech Republic; ²Tomas Bata University in Zlin, Faculty of Applied Informatics, ZLIN, Czech Republic;

Paper Id: 98 [\[Abstract\]](#)

11:55: [RecyclingMonAM02] OS

Complex Processing of Animal Waste Fats into Valuable Products with Regard to the Economic Aspects

Jiri Pecha¹; **Lubomir Sanek**¹; **Karel Kolomaznik**¹; **Veronika Matusu**²; ¹Tomas Bata University in Zlin, Faculty of Applied Informatics, CEBIA-Tech, Zlin, Czech Republic; ²Tomas Bata University in Zlin, Faculty of Applied Informatics, Zlin, Czech Republic;

Paper Id: 89 [\[Abstract\]](#)

12:20: [RecyclingMonAM03] OS

Food waste valorization by co-digestion for biogas production and carbon emission reduction: Role of VFA and SCOD

Anwar Ahmad¹; ¹University of Nizwa, Nizwa, Oman;

Paper Id: 46 [\[Abstract\]](#)

12:45: [RecyclingMonAM04] OS

Evaluation Of Parameters Affecting Glycerol Oxidation

Juan Carlos Beltran Prieto¹; **Karel Kolomaznik**²; ¹Tomas Bata University in Zlin, Faculty of Applied Informatics, ZLIN, Czech Republic; ²Tomas Bata University in Zlin, Faculty of Applied Informatics, CEBIA-Tech, Zlin, Czech Republic;

Paper Id: 86 [\[Abstract\]](#)

13:10 LUNCH

SESSION: RecyclingMonPM1-R5 Mon. 28 Nov. 2022 / Room: Arcadia 2 <u>Session Chairs:</u> Jiri Pecha; <u>Session Monitor:</u> TBA	Kolomaznik International Symposium (8th Intl. Symp. on Sustainable Materials Recycling Processes & Products)
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14:00: [RecyclingMonPM105] OS

Automatic Control of Recycling Technologies

Vladimir Vasek¹; **Karel Kolomaznik**²; **Dagmar Janacova**¹; Hana Vaskova²; ¹Tomas Bata University in Zlin, Faculty of Applied Informatics, Zlin, Czech Republic; ²Tomas Bata University in Zlin, Faculty of Applied Informatics, CEBIA-Tech, Zlin, Czech Republic;

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

14:25: [RecyclingMonPM106] OS

Yeasts Hydrolysis for Functional Food Preparation and Waste Valorization

Jiri Pecha¹; **Jakub Husar**²; **Karel Kolomaznik**¹; **Veronika Matusu**²; **Michaela Barinova**³; ¹Tomas Bata University in Zlin, Faculty of Applied Informatics, CEBIA-Tech, Zlin, Czech Republic; ²Tomas Bata University in Zlin, Faculty of Applied Informatics, Zlin, Czech Republic; ³Tomas Bata University in Zlin, Zlin, Czech Republic;

Paper Id: 91 [\[Abstract\]](#)

14:50: [RecyclingMonPM107] OS

Printed Circuit Boards Recycling

Dagmar Janacova¹; **Karel Kolomaznik**²; **Vladimir Vasek**¹; **Rudolf Drga**¹; **Jan Pitel**³; ¹Tomas Bata University in Zlin, Faculty of Applied Informatics, Zlin, Czech Republic; ²Tomas Bata University in Zlin, Faculty of Applied Informatics, CEBIA-Tech, Zlin, Czech Republic; ³Technical University of Kosice, FMT, Presov, Slovakia;

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

15:15: [RecyclingMonPM108] OL

Developing High Performance Functional Materials from Waste

Sabu Thomas¹ ; ¹Mahatma Gandhi University, Kerala, India;

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

15:40 Break

SESSION: RecyclingMonPM2-R5 Mon. 28 Nov. 2022 / Room: Arcadia 2 <u>Session Chairs:</u> Carmen Gaidau; <u>Session Monitor:</u> TBA	Kolomaznik International Symposium (8th Intl. Symp. on Sustainable Materials Recycling Processes & Products)
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15:55: [RecyclingMonPM209] OS

Protein By-products Recovery and Reuse for Sustainable Agriculture and Medical Applications

Carmen Gaidau¹; Mihaela Niculescu²; Stanca Maria²; Cosmin Alexe²; Marius Becheritu³; Roxana Horoias³; **Jiri Pecha**⁴; ¹, , ; ²R&D National Institute for Textiles and Leather, Bucharest, Romania; ³SC Probstdorfer Saatzucht Romania SRL, Bucharest, Romania; ⁴Tomas Bata University in Zlin, Faculty of Applied Informatics, CEBIA-Tech, Zlin, Czech Republic;

Paper Id: 121 [\[Abstract\]](#)

16:20: [RecyclingMonPM210] OS

Protein Composites from By-Products for Applications in Circular Economy

Mihaela Niculescu¹; Carmen Gaidau²; Mihai Gidea³; Marius Becheritu⁴; ¹The National Research-Development Institute for Textiles and Leather - Leather and Footwear Research Institute Division, Bucharest, Romania; ²R&D National Institute, Bucharest, Romania; ³University of Agronomic Science and Veterinary Medicine–UASMV, Bucharest, Romania; ⁴SC Probstdorfer Saatzucht Romania SRL, Bucharest, Romania;

Paper Id: 61 [\[Abstract\]](#)

16:45: [RecyclingMonPM211] OS Keynote

Utilization of Protein By-Products in 3D Bioprinting

Eva Achbergerova¹; Lenka Musilova²; Lenka Vitkova²; Ales Mracek²; **Jiri Pecha**¹; ¹Tomas Bata University in Zlin, Faculty of Applied Informatics, CEBIA-Tech, Zlin, Czech Republic; ²Tomas Bata University in Zlin, Zlin, Czech Republic;

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

17:10: [RecyclingMonPM212] OS

**Ordered Structures Formation in Multicomponent Polysaccharide Systems;
Effect of Graphene Oxide**

Ivan Kelnar¹; Alexander Zhigunov²; Jiří Dybal²; ¹, Prague, Czech Republic; ²Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic;
Paper Id: 161 [\[Abstract\]](#)

17:35 Break

SESSION:
RecyclingMonPM3-R5

Mon, 28 Nov. 2022 /
Room: **Arcadia 2**

Session Chairs: Dagmar Janacova; Session Monitor: TBA

**Kolomaznik International Symposium (8th Intl.
Symp. on Sustainable
Materials Recycling Processes & Products)**

17:50: [RecyclingMonPM313] OS

**Thermo-oxidative reclamation of ground tire rubber as potential reinforcement in
green tires**

Adeel Hassan¹; ¹Shanghai Jiao Tong University, Shanghai, China;
Paper Id: 157 [\[Abstract\]](#)

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION:
SolidStateChemistryMonAM-R6

Mon, 28 Nov. 2022 /
Room: **Andaman 1**

Session Chairs: Alejandro **Varez**; Session Monitor: TBA

**Alario-Franco international Symposium (2nd
Intl Symp on Solid State Chemistry for
Applications & Sustainable Development)**

11:30: [SolidStateChemistryMonAM01] OS Plenary

A career in novel Chemistry- Part 1

Miguel A. Alario Franco¹; ¹Complutense University of Madrid, Madrid, Spain;
Paper Id: 518 [\[Abstract\]](#)

11:55: [SolidStateChemistryMonAM02] OS Plenary

A career in novel Chemistry- Part 2

Miguel A. Alario Franco¹; ¹Complutense University of Madrid, Madrid, Spain;

Paper Id: 519 [\[Abstract\]](#)

12:20: [SolidStateChemistryMonAM03] OS

NASICON ceramic electrolytes produced by combination of tape-casting and hot-pressing with high performances at room temperature. Towards sustainable all-solid-state sodium batteries.

Alejandro Varez¹; Belén Levenfeld²; Cynthia Martinez Cisneros³; Johanna MNaranjo Balseca¹; Bidhan Pandit¹; ¹UNIVERSIDAD CARLOS III DE MADRID, LEGANES, Spain; ²Universidad Carlos III de Madrid, Leganés, Spain; ³Universidad Carlos III de Madrid, LEGANES, Spain;

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

12:45: [SolidStateChemistryMonAM04] OS

3D-printing of easily recyclable all-ceramic thick LiCoO₂ electrodes with enhanced areal capacity for Li-ion batteries using a highly filled thermoplastic filament

Belén Levenfeld¹; **Alejandro Varez**²; Carmen De La Torre¹; Daniel Del Río¹; ¹Universidad Carlos III de Madrid, Leganés, Spain; ²UNIVERSIDAD CARLOS III DE MADRID, LEGANES, Spain;

Paper Id: 442 [\[Abstract\]](#)

13:10 LUNCH

SESSION:
SolidStateChemistryMonPM1-R6

Mon. 28 Nov. 2022 /

Room: **Andaman 1**

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

Alario-Franco international Symposium (2nd Intl Symp on Solid State Chemistry for Applications & Sustainable Development)

14:00: [SolidStateChemistryMonPM105] OS Keynote

Nano Hybrid Materials Systems for Multifunctional Applications

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

Paper Id: 177 [\[Abstract\]](#)

14:25: [SolidStateChemistryMonPM106] OS Keynote

Predicting the Gas Sensing Performance of 2D Materials

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

Paper Id: 392 [\[Abstract\]](#)

14:50: [SolidStateChemistryMonPM107] OS

When the High-Pressure Synthesis of HTSC Cuprates does not follow the Lanthanide Contraction...(but their properties do) and two more unusual reactions

Miguel Angel Alario Franco¹; ¹Inorganic Chemistry DPT.Facultad de Química Universidad Complutense, MADRID, Spain;

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

15:15: [SolidStateChemistryMonPM108] OS Keynote

Carbon-based Compounds and Materials for Enhanced Solar Cell Efficiencies and for Electrocatalytic Applications for Hydrogen Formation

Luis Echegoyen¹; ¹American Chemical Society, El Paso, United States;

Paper Id: 525 [\[Abstract\]](#)

15:40 Break

SESSION: SolidStateChemistryMonPM2-R6 Mon, 28 Nov. 2022 / Room: Andaman 1 <u>Session Chairs:</u> Fernand Marquis ; <u>Session Monitor:</u> TBA	Alario-Franco international Symposium (2nd Intl Symp on Solid State Chemistry for Applications & Sustainable Development)
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15:55: [SolidStateChemistryMonPM209] OS

Unusual topochemical reactions

Hiroshi Kageyama¹; ¹Kyoto University, Kyoto, Japan;

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

16:20: [SolidStateChemistryMonPM210] OS

Development of High-Pressure Treatment Technique for Epitaxial Thin Films and Fabrication of α -PbO₂-type TiO₂ Epitaxial Thin Films

Yuki Sasahara¹; Koki Kanatani²; Hiroaki Asoma³; Cédric Tassel¹; Kazunori Nishio³; Hiroshi Kageyama¹; Ryota Shimizu³; Masaki Azuma²; Norimasa Nishiyama²; Taro Hitosugi⁴; ¹Kyoto University, Kyoto, Japan; ²Tokyo Institute of Technology, Yokohama, Japan; ³Tokyo Institute of Technology, Tokyo, Japan; ⁴The University of Tokyo, Tokyo, Japan;

Paper Id: 441 [\[Abstract\]](#)

16:45: [SolidStateChemistryMonPM211] OS Keynote

Structural Dynamics and Growth Mechanism of Covalent Organic Frameworks

Dan Zhao¹; ¹National University of Singapore, Singapore, Singapore;

Paper Id: 469 [\[Abstract\]](#)

17:10: [SolidStateChemistryMonPM212] OS

“Fluoroperovskites and other Fluoride Materials for Applications in Energy, Electronics, Photonics and Sustainable Issues”

Alain Tressaud¹; ¹ICMCB-CNRS, University Bordeaux, Pessac, France;

Paper Id: 506 [\[Abstract\]](#)

17:35 Break

SESSION: SolidStateChemistryMonPM3-R6 Mon. 28 Nov. 2022 / Room: Andaman 1 <u>Session Chairs:</u> Yuki Sasahara ; <u>Session Monitor:</u> TBA	Alario-Franco international Symposium (2nd Intl Symp on Solid State Chemistry for Applications & Sustainable Development)
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17:50: [SolidStateChemistryMonPM313] OS

High pressure synthesis of new light materials with outstanding properties

Yann Le Godec¹; ¹CNRS, PARIS, France;

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

18:15: [SolidStateChemistryMonPM314] OS Invited

Laser Modification of Solids

Luis A. Angurel¹; **German F. De La Fuente**²; David Munoz Rojas³; Luis Porta Velilla⁴; Elena Martínez⁴; Alejandro Frechilla⁵; A. Sekkat³; ¹INMA (CSIC-University of Zaragoza), Zaragoza, Spain; ²Institute of Nanoscience and Materials of Aragón (CSIC-University of Zaragoza), Zaragoza, Spain; ³LMGP, UMR 5628, Grenoble Cedex 1, France; ⁴INMA(CSIC-Universidad de Zaragoza), Zaragoza, Spain; ⁵INMA (CSIC-Universidad de Zaragoza), Zaragoza, Spain;

Paper Id: 509 [\[Abstract\]](#)

19:00 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: CorrosionMonAM-R7	Macdonald International Symposium (Intl Sympos. on Corrosion for Sustainable Development)
Mon. 28 Nov. 2022 / Room: Andaman 2	
Session Chairs: Raman Singh; Session Monitor: TBA	

11:30: [CorrosionMonAM01] OS Plenary

Determinism in Science and Engineering

Digby Macdonald¹; ¹University of California at Berkeley, Berkeley, United States;

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

11:55: [CorrosionMonAM02] OS Plenary

Graphene: An Ideal Coating for Durable Corrosion Resistance

Raman Singh¹; ¹Monash University, Monash University, Australia;

Paper Id: 326 [\[Abstract\]](#)

12:20: [CorrosionMonAM03] OS Plenary

**Corrosion Sensitivity of Alloy 600 to exposure to KOH versus LiOH in
Pressurized Water Reactor Water Chemistry**

Djamel Kaoumi¹; Fu-yun Tsai¹; ¹North Carolina State University, Raleigh, United States;

Paper Id: 395 [\[Abstract\]](#)

12:45: [CorrosionMonAM04] OS

**Finite Element Analysis for Modelling Microbial and Atmospheric Thin Film
Corrosion**

Mohsen Saeedikhani¹; Daniel John Blackwood¹; ¹National University of Singapore, Singapore, Singapore;

Paper Id: 186 [\[Abstract\]](#)

13:10 LUNCH

SESSION: CorrosionMonPM1-R7	Macdonald International Symposium (Intl Sympos. on Corrosion for Sustainable Development)
Mon. 28 Nov. 2022 / Room: Andaman 2	
<u>Session Chairs:</u> Raman Singh; <u>Session Monitor:</u> TBA	

14:00: [CorrosionMonPM105] OS

Redefining the Electrochemical Kinetics of Redox Reactions on Passive Surfaces

Digby Macdonald¹; ¹University of California at Berkeley, Berkeley, United States;
Paper Id: 381 [\[Abstract\]](#)

14:25: [CorrosionMonPM106] OS

The Scientific Basis of Our Reactive Metals Based Civilization

Digby Macdonald¹; ¹University of California at Berkeley, Berkeley, United States;
Paper Id: 380 [\[Abstract\]](#)

14:50: [CorrosionMonPM107] OS

Volta Potential Evolution of Aluminium Alloys under Chloride-Contaminated Thin-Film Electrolyte

Yanhan Liew¹; Cem Örne²; Jinshan Pan³; Dominique Thierry⁴; Sudesh Wijesinghe⁵; **Daniel John Blackwood**¹; ¹National University of Singapore, Singapore, Singapore; ²Istanbul Technical University, Istanbul, Turkey; ³KTH Royal Institute of Technology, Stockholm, Sweden; ⁴French Corrosion Institute, Brest, France; ⁵Singapore Institute of Manufacturing Technology (SIMTech), Singapore, Singapore;
Paper Id: 192 [\[Abstract\]](#)

15:15: [CorrosionMonPM108] OS Plenary

Thermodynamic and Corrosion Properties of Metallic Nanobjects and Application of Quantum Chemical Calculations in Management of Experiments in Lab Scale

Maros Halama¹; ¹Technical University of Kosice, Faculty of Materials, Metallurgy and Recycling, Corrosion Control Lab, Kosice, Slovakia;
Paper Id: 322 [\[Abstract\]](#)

15:40 Break

SESSION: CorrosionMonPM2-R7	Macdonald International Symposium (Intl Sympos. on Corrosion for Sustainable Development)
Mon. 28 Nov. 2022 / Room: Andaman 2	
<u>Session Chairs:</u> Harpreet Singh; <u>Session Monitor:</u> TBA	

15:55: [CorrosionMonPM209] OS

The Anthropogenic Global Warming Hypothesis and the Causality Principle
Digby Macdonald¹; ¹University of California at Berkeley, Berkeley, United States;
 Paper Id: 382 [\[Abstract\]](#)

16:20: [CorrosionMonPM210] OS Invited

Electrochemical Corrosion Behavior of Cold-Sprayed Titanium/Baghdadite Coatings for Biomedical Applications
Harpreet Singh¹; Ravi Kant²; Avneesh Kumar²; ¹Associate Professor (SMME), Rupnagar, India; ²Indian Institute of Technology Ropar, Rupnagar, India;
 Paper Id: 199 [\[Abstract\]](#)

16:45: [CorrosionMonPM211] OS

ELECTROCHEMICAL CORROSION BEHAVIOUR OF Mg-Li AND Mg-Li-Zn ALLOYS
 Chandra Perugu¹; Ashtosh Jangde¹; **Subodh Kumar**¹; Satyam Suwas¹; ¹Indian Institute of Science, Bangalore, India;
 Paper Id: 190 [\[Abstract\]](#)

17:10: [CorrosionMonPM212] OS

Crevice Corrosion Behavior of Multiphase Steels Consisting of Various Phase Fraction of Bainite, Retained Austenite, Intercritical Ferrite and Pearlite
V Neetu¹; Sandeep Sangal¹; Kallol Mondal¹; ¹IIT Kanpur, Kanpur, India;
 Paper Id: 200 [\[Abstract\]](#)

17:35 Break

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: MultiscaleMonAM-R8	Horstemeyer International Symposium (7th Intl. symp. on Multiscale Material Mechanics & Sustainable Applications)
Mon, 28 Nov. 2022 / Room: Similan 1	
<u>Session Chairs:</u> Mike Mikalajunas; <u>Session Monitor:</u> TBA	

11:30: [MultiscaleMonAM01] OS Plenary

Integrated Computational Materials Engineering for Geophysics of the Earth

Mark Horstemeyer¹ ; ¹Liberty University, Lynchburg, United States;

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

11:55: [MultiscaleMonAM02] OS Plenary

The gradual abandonment of many types of well known experimental based models for the Physical Sciences in favor of a more Universal Algebraic Theory

Mike Mikalajunas¹ ; ¹CIME, iLe Perrot, Canada;

Paper Id: 267 [\[Abstract\]](#)

12:20: [MultiscaleMonAM03] OS Keynote

Reliability Design of Mechanical Systems Subjected to Repetitive Stresses

Seongwoo Woo¹ ; Chung Tae Kim² ; Dereje Engida Woldemichael³ ; Samson Mekbib Atnaw⁴ ; ¹Technical and Vocational Training Institute (TVTI), Addis Ababa,

Ethiopia; ²Addis Ababa Science and Technology University, Bole-sub city, Addis

Ababa, Ethiopia; ³Addis Ababa Science & Technology University, Addis Ababa,

Ethiopia; ⁴Addis Ababa Science & Technology University, Addis Ababa, Ethiopia;

Paper Id: 93 [\[Abstract\]](#)

12:45: [MultiscaleMonAM04] OS Plenary

Subloading Surface Model: Governing law of irreversible deformation behavior of solids

Koichi Hashiguchi¹ ; ¹Kyushu University, Fukuoka, Japan;

Paper Id: 265 [\[Abstract\]](#)

13:10 LUNCH

SESSION:
MultiscaleMonPM1-R8

**Horstemeyer International Symposium (7th Intl.
symp. on Multiscale Material Mechanics &
Sustainable Applications)**

Mon. 28 Nov. 2022 /
Room: **Similan 1**

Session Chairs: Seongwoo Woo; Session Monitor: TBA

14:00: [MultiscaleMonPM105] OS Plenary
Renormalization Group and Catastrophe Theory in geomechanics: From universal (fractal) material properties to scale-invariant constitutive laws

Alberto Carpinteri¹ ; ¹Politecnico di Torino, Torino, Italy;

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

14:25: [MultiscaleMonPM106] OS Plenary

Correlation between Nano-Mechanics Instabilities, TeraHertz Phonons, and Sub-Atomic Particle Emissions: Implications to Geophysics and Geochemistry

Alberto Carpinteri¹ ; ¹Politecnico di Torino, Torino, Italy;

Paper Id: 260 [\[Abstract\]](#)

14:50: [MultiscaleMonPM107] OS Plenary

Advances in Acoustic Emission across scales: From natural and manmade materials to industrial and geological processes

František Chmelík¹ ; ¹Charles University, Faculty of Mathematics and Physics, Prague 2, Czech Republic;

Paper Id: 262 [\[Abstract\]](#)

15:15: [MultiscaleMonPM108] OS Plenary

Solution of Eikonal equation for traveltime due to compressional and shear waves in anisotropic media using peridynamic differential operator

Erdogan Madenci¹ ; ¹University of Arizona, Tucson, United States;

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

15:40 Break

SESSION: ModellingMonPM2-R8	Trovalusci International Symposium (17th Intl. Symp. on Multiscale & Multiphysics Modelling of 'Complex' Material (MMCM17))
Mon. 28 Nov. 2022 / Room: Similan 1	
<u>Session Chairs:</u> Adnan Ibrahimbegovic; <u>Session Monitor:</u> TBA	

15:55: [ModellingMonPM209] OS Plenary

Coarse-graining approaches for complex materials and non classical/non-local local continuum formulations

Patrizia Trovalusci¹; ¹Sapienza - University of Rome, Rome, Italy;

Paper Id: 459 [\[Abstract\]](#)

16:20: [ModellingMonPM210] OS Plenary

Stochastic Upscaling: Probability Based Size and Scale Effects

Adnan Ibrahimbegovic¹; ¹Universite de Technologie de Compiegne - Alliance Sorbonne Universite, Compiegne, France;

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

16:45: [ModellingMonPM211] OS Plenary

Dynamic analysis of Cosserat media for anisotropic homogenized materials

Nicholas Fantuzzi¹; **Patrizia Trovalusci**²; Marco Colatosti¹; ¹University of Bologna, Bologna, Italy; ²Sapienza - University of Rome, Rome, Italy;

Paper Id: 128 [\[Abstract\]](#)

17:10: [ModellingMonPM212] OL Keynote

On the Coupling of Data-Driven Computing and Model-Driven Computing for Composite Materials and Structures

Heng Hu¹; Jie Yang¹; Wei Huang¹; Qun Huang¹; ¹Wuhan University, Wuhan, China;

Paper Id: 467 [\[Abstract\]](#)

17:35 Break

SESSION: ModellingMonPM3-R8	Trovalusci International Symposium (17th Intl. Symp. on Multiscale & Multiphysics Modelling of 'Complex' Material (MMCM17))
Mon. 28 Nov. 2022 / Room: Similan 1	
<u>Session Chairs:</u> Patrizia Trovalusci; <u>Session Monitor:</u> TBA	

17:50: [ModellingMonPM313] OS Keynote

Improvements in the analysis of nonlocal elasticity for nanostructures

Raffaele Barretta¹ ; ¹University of Naples Federico II, Naples, Italy;

Paper Id: 490 [\[Abstract\]](#)

18:15: [ModellingMonPM314] OS Plenary

An overview on law- and data-based computational methods

Gui-rong Liu¹ ; ¹, ohio, United States;

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

19:00 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: BatteryMonAM-R9	Yazami International Symposium (7th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling)
Mon. 28 Nov. 2022 / Room: Similan 2	
<u>Session Chairs:</u> Vasant Kumar; <u>Session Monitor:</u> TBA	

11:30: [BatteryMonAM01] OS Plenary

TOWARD SMART BATTERIES FOR THE ENERGY TRANSITION

Rachid Yazami^{1,0} ; ¹KVI PTE LTD, Singapore, Singapore;

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

11:55: [BatteryMonAM02] OS Plenary

Beyond Li-Ion Batteries: Future Prospects for Li-S Batteries

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

Paper Id: 457 [\[Abstract\]](#)

12:20: [BatteryMonAM03] OS Plenary

Investigation of three-dimensional NiO/Ni anode with PAA-PVA polymer multi-layers for lithium-ion batteries

Zhumabay Bakenov¹; Anar Arinova²; Yer-targyn Tleukenov²; Arailym Nurpeissova³;

Gulnur Kalimuldina⁴; ¹Nazarbayev University, Nur-Sultan, Kazakhstan,

Kazakhstan; ²National Laboratory Astana, Nazarbayev University, Nur-Sultan,

Kazakhstan, Kazakhstan; ³Institute of Batteries LLC, Nur-Sultan, Kazakhstan; ⁴School

of Engineering and Digital Sciences, Nazarbayev University, Nur-Sultan, Kazakhstan, Kazakhstan;

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

12:45: [BatteryMonAM04] OS Plenary

Developments Towards High Energy Density Lithium Batteries: New Sulfide Rocksalt Cathodes and Improvements of Lithium Metal Anode

Sebastien Martinet¹; Cipolla Alex¹; Benoit Chavillon¹; Benoit Mathieu¹; Celine

Barchasz¹; Yagmur Celasun^{1,0}; David Peralta¹; Jean-francois Colin¹; ¹CEA-LITEN, Grenoble, France;

Paper Id: 57 [\[Abstract\]](#)

13:10 LUNCH

SESSION: BatteryMonPM1-R9	Yazami International Symposium (7th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling)
Mon. 28 Nov. 2022 / Room: Similan 2	
<u>Session Chairs:</u> Carsten Schwandt; <u>Session Monitor:</u> TBA	

14:00: [BatteryMonPM105] OS Plenary

Synthesis of Lithium Ion Battery Anode Materials from Commodity Reactants via Scalable Processes

Carsten Schwandt¹; ¹University of Nizwa, Nizwa, Oman;

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

14:25: [BatteryMonPM106] OS

Battery Performance Analysis of Hollow Double-shelled Sphere VOOH as The Cathode for Aqueous Zinc-Ion Battery

Vasant Kumar¹; Sarah Alya Firnadya²; ¹University of Cambridge, Cambridge, United Kingdom; ²University of Cambridge, New York, United States;

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

14:50: [BatteryMonPM107] OS Plenary

State of Battery Recycling - Part 1

Athan Fox¹; ¹Ever Resource Ltd, Cambridge, United Kingdom;

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

15:15: [BatteryMonPM108] OS Plenary

State of Battery Recycling - Part 2

Athan Fox¹; ¹Ever Resource Ltd, Cambridge, United Kingdom;

Paper Id: 493 [\[Abstract\]](#)

15:40 Break

SESSION: BatteryMonPM2-R9	Yazami International Symposium (7th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling)
Mon. 28 Nov. 2022 / Room: Similan 2	
<u>Session Chairs:</u> Zhumabay Bakenov; <u>Session Monitor:</u> TBA	

15:55: [BatteryMonPM209] OS Plenary

Battery Chemistries

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

Paper Id: 479 [\[Abstract\]](#)

16:20: [BatteryMonPM210] OS

Advanced Functional Materials for Clean and Sustainable Energy Applications

Ahsan Ul Haq Qurashi¹; ¹Khalifa University, Abu Dhabi, United Arab Emirates;

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

16:45: [BatteryMonPM211] OS Invited

Next generation, smart passive components for improved safety and performance in Li-Ion batteries

Dmitry Yarmolich¹; ¹Peiman Hosseini²; ³Steven Carlson³; ⁴Ben Sloan³; ¹PlasmaApp Ltd, OX11 0QX, United Kingdom; ²Meta Materials inc, Harwell, United Kingdom; ³Meta

SESSION: BatteryMonPM3-R9	Yazami International Symposium (7th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling)
Mon. 28 Nov. 2022 / Room: Similan 2	
<u>Session Chairs</u> : Sebastien Martinet ; <u>Session Monitor</u> : TBA	

17:50: [BatteryMonPM313] OL Invited

Phase Transitions of Hybrid Organic-Inorganic Perovskites

Wei Li¹; ¹Nankai University, Tianjin, China;

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

18:15: [BatteryMonPM314] OL

Closed-loop Recycling Process Flow for Diamond Betavoltaics

Yannick Verbelen¹; Morgan Boardman²; Hugo Dominguez³; Robbie Mackenzie⁴; Tom Wallace Smith⁴; Suresh Kaluvan⁴; Chris Hutson⁴; Sophie Osbourne⁴; Ian Bickerton⁴; Talmon Firestone²; Neil Fox⁵; Tom Scott⁴; ¹, Bristol, United Kingdom; ²Arkenlight Ltd, Colindale, London, United Kingdom; ³School of Chemistry, University of Bristol, Bristol, United Kingdom; ⁴University of Bristol, Bristol, United Kingdom; ⁵Bristol Centre for Functional Nanomaterials, University of Bristol, Bristol, United Kingdom;

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

19:00 Dinner

Tuesday

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION:

AdvancedMaterialsTueAM-R10

6th Intl. Symp. on New & Advanced Materials & Technologies for Energy, Environment, Health & Sustainable Development

Tue. 29 Nov. 2022 /

Room: **Saitong**

Session Chairs: Paulo Assis; Session Monitor: TBA

11:30: [AdvancedMaterialsTueAM01] OL

Antifouling activity of natural seaweed products of the Brazilian coast. A review.

Camila Freitas De Araújo¹; Adriano Batista²; Bernardo Da Gama³; Jorge Murta⁴; Paulo Assis⁵; ¹Federal University of Ouro Preto - UFOP/REDEMAT, Ouro Preto, Brazil; ²IFMG, Ouro Preto, Brazil; ³UFF, Niterói, Brazil; ⁴Federal University of Ouro Preto, Ouro Preto, Brazil; ⁵University of Ouro Preto / REDEMAT, Ouro Preto, Brazil;

Paper Id: 143 [\[Abstract\]](#)

11:55: [AdvancedMaterialsTueAM02] OS

Strategic Design of Advanced Bioinspired and Biomimetic Membranes

Conjugated with Graphene Oxide for Selective Ion Rejection

Sanju Gupta¹; ¹UCF, Bowling Green, United States;

Paper Id: 178 [\[Abstract\]](#)

12:20: [AdvancedMaterialsTueAM03] OS

Theoretical insights into structure, electronic and mechanical properties of RuBx (x=1,2,3)

Ang-yang Yu¹; ¹Heilongjiang Vocational College of Biology Science and Technology, Heilongjiang, China;

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

12:45: [AdvancedMaterialsTueAM04] OS Invited

Superalloys and Thermal Barrier Coatings for Aeroengine Applications

Ali Dad Chandio¹; ¹NED University of Engineering and Technology, Karachi, Pakistan, Karachi, Pakistan;

Paper Id: 230 [\[Abstract\]](#)

13:10 LUNCH

SESSION:
AdvancedMaterialsTuePM1-R10

Tue. 29 Nov. 2022 /

Room: **Saitong**

Session Chairs: Igor Konyashin; Session Monitor: TBA

6th Intl. Symp. on New & Advanced Materials & Technologies for Energy, Environment, Health & Sustainable Development

14:00: [AdvancedMaterialsTuePM105] OS

Effects of Size and Morphology of Antimony Working as Anodes for Na-ion Batteries

Justyna Płotek¹; Andrzej Kulka²; Janina Molenda³; ¹AGH University of Science and Technology, Kraków, Poland; ²AGH University of Science and Technology, Cracow, Poland; ³AGH University of Science and Technology, Kraków, Kraków, Poland; Paper Id: 198 [\[Abstract\]](#)

14:25: [AdvancedMaterialsTuePM106] OS

Ion Transport and Interfaces at the Nanoscale in Solid Electrolytes for Solid-State Batteries

James Dawson¹; ¹Newcastle University, NEWCASTLE UPON TYNE, United Kingdom; Paper Id: 253 [\[Abstract\]](#)

14:50: [AdvancedMaterialsTuePM107] OS

Novel Approaches to Overcoming the Trade-Off Between Hardness and Toughness of Hard Materials

Igor Konyashin¹; ¹Element Six GmbH, Burghaun, Germany; Paper Id: 10 [\[Abstract\]](#)

15:15: [AdvancedMaterialsTuePM108] OS Keynote

Redox Control of Nanoswitch and Nanomachinery

Michael Schmittl¹; ¹Universität Siegen, Siegen, Germany; Paper Id: 11 [\[Abstract\]](#)

15:40 Break

SESSION:
AdvancedMaterialsTuePM2-R10

Tue. 29 Nov. 2022 /

Room: **Saitong**

Session Chairs: Inmaculada Ortiz; Session Monitor: TBA

6th Intl. Symp. on New & Advanced Materials & Technologies for Energy, Environment, Health & Sustainable Development

15:55: [AdvancedMaterialsTuePM209] OS

Ruddlesden-Popper-type Nd_{2-x}Ni_{0.75}Cu_{0.2M0.05O4±δ} (x = 0 and 0.1; M = Ga, Sc and In) layered oxides as candidate materials for MIEC-type ceramic membranes

Konrad Swierczek¹; Anna Niemczyk¹; Anna Olszewska¹; Zijia Zhang²; Hailei Zhao²; Kacper Cichy³; ¹AGH University of Science and Technology, Faculty of Energy and Fuels, Krakow, Poland; ²University of Science and Technology Beijing, School of Materials Science and Engineering, Beijing, China; ³AGH University of Science and Technology, Krakow, Poland;

Paper Id: 138 [\[Abstract\]](#)

16:20: [AdvancedMaterialsTuePM210] OS

New proton exchange membranes based on polymerized ionic liquids for fuel cells

Lucia Gomez Coma¹; Victor-manuel Ortiz Martínez¹; Alfredo Ortiz¹; **Inmaculada Ortiz**¹; ¹University of Cantabria, Santander, Spain;

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

16:45: [AdvancedMaterialsTuePM211] OS

A promising alternative for oxygen production – application of air-operating <i>R</i>MnO_{3+δ} oxides in low-temperature TSA

Kacper Cichy¹; Konrad Swierczek²; Juliusz Dąbrowa³; ¹AGH University of Science and Technology, Krakow, Poland; ²AGH University of Science and Technology, Faculty of Energy and Fuels, Krakow, Poland; ³AGH University of Science and Technology, Faculty of Materials Science and Ceramics, Kraków, Poland;

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

17:10: [AdvancedMaterialsTuePM212] OS

From simple alkaline oxides to high entropy transition metals oxides - applications in electrochemical energy storage

Janina Molenda¹; ¹AGH University of Science and Technology, Kraków, Kraków, Poland;

Paper Id: 139 [\[Abstract\]](#)

17:35 Break

SESSION:
AdvancedMaterialsTuePM3-R10

Tue. 29 Nov. 2022 /

Room: **Saitong**

Session Chairs: Keyun Li; Session Monitor: TBA

6th Intl. Symp. on New & Advanced Materials & Technologies for Energy, Environment, Health & Sustainable Development

17:50: [AdvancedMaterialsTuePM313] OS

Evaluation of high-entropy oxides as candidate anode materials for Li-ion cells

Maciej Moździerz¹; Juliusz Dąbrowa²; Konrad Swierczek³; ¹AGH University of Science and Technology, Faculty of Energy and Fuels, Kraków, Poland; ²AGH University of Science and Technology, Faculty of Materials Science and Ceramics, Kraków, Poland; ³AGH University of Science and Technology, Faculty of Energy and Fuels, Krakow, Poland;

Paper Id: 188 [\[Abstract\]](#)

18:15: [AdvancedMaterialsTuePM314] OS

Cu-based perovskite-type oxides as air electrodes for Solid Oxide Cells

Keyun Li¹; Anna Niemczyk²; Konrad Swierczek¹; Yevgeniy Naumovich²; Jakub Kupecki²; Anna Olszewska¹; Kun Zheng³; Bogdan Dabrowski⁴; ¹AGH University of Science and Technology, Faculty of Energy and Fuels, Krakow, Poland; ²Institute of Power Engineering - Research Institute, Warsaw, Poland; ³AGH University of Science and Technology, Krakow, Poland; ⁴Polish Academy of Sciences, Institute of Physics, Warsaw, Poland;

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

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: EnergyTueAM-R11	Mauntz International Symposium (7th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, & storage for all energy production technologies; Energy conservation)
Tue. 29 Nov. 2022 / Room: Game	
<u>Session Chairs:</u> Hussein Hoteit; <u>Session Monitor:</u> TBA	

11:30: [EnergyTueAM01] OS

Analysis of hybrid operating mode for coolant source heat pump system applied to a fuel cell electric vehicle

Hoseong Lee¹; ¹Korea Automotive Technology Institute, Chonan, South Korea;

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

11:55: [EnergyTueAM02] OS

NONEQUILIBRIUM THERMODYNAMICS OF DYNAMIC CHEMICAL EQUILIBRIA

Anil A. Bhalekar¹; ¹Department of Chemistry, R. T. M. Nagpur University, NAGPUR, India;

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

12:20: [EnergyTueAM03] OS

Sustainable Oil Industry Development With Carbon-Constrained Economy in Saudi Arabia

Hussein Hoteit¹; ¹King Abdullah University of Science & Technology (KAUST), Thuwal, Saudi Arabia;

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

12:45: [EnergyTueAM04] OS

Oil Production and Environmental Damage

Abdollah Esmaeili¹; Yermek Aubakirov¹; Fatima Kanapiyeva¹; ¹Al-Farabi Kazakh National University, Almaty, Kazakhstan;

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

13:10 LUNCH

SESSION: EnergyTuePM1-R11 Tue. 29 Nov. 2022 / Room: Game <u>Session Chairs:</u> Abdollah Esmaeili; <u>Session Monitor:</u> TBA	Mauntz International Symposium (7th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, & storage for all energy production technologies; Energy conservation)
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14:00: [EnergyTuePM105] OS

Formation Damage in a Reservoir

Maryam Dehghani¹; ¹Oil and Gas Company, Omidieh, Iran;

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

14:25: [EnergyTuePM106] OS

Pipeline External Corrosion Protection

Abdollah Esmaeili¹; Yermek Aubakirov¹; Fatima Kanapiyeva¹; ¹Al-Farabi Kazakh National University, Almaty, Kazakhstan;

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

14:50: [EnergyTuePM107] OS

Matrix Acid Stimulation

Abdollah Esmaeili¹; Yermek Aubakirov¹; Fatima Kanapiyeva¹; ¹Al-Farabi Kazakh National University, Almaty, Kazakhstan;

Paper Id: 18 [\[Abstract\]](#)

15:15: [EnergyTuePM108] OS

Enhancing Condensate Recovery from Gas Condensate Reservoirs through Gas Injection

Abdollah Esmaeili¹; Yermek Aubakirov¹; Fatima Kanapiyeva¹; ¹Al-Farabi Kazakh National University, Almaty, Kazakhstan;

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

15:40 Break

SESSION:
MoltenTuePM2-R11

**Kipouros International Symposium (8th Intl.
Symp. on Sustainable Molten Salt, Ionic &
Glass-forming Liquids & Powdered Materials)**

Tue. 29 Nov. 2022 / Room: **Game**

Session Chairs: Takanari Ouchi; Session Monitor: TBA

15:55: [MoltenTuePM209] OS

A life dedicated to molten salts and powder metallurgy - Part 1

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

Paper Id: 541 [\[Abstract\]](#)

16:20: [MoltenTuePM210] OS

A life dedicated to molten salts and powder metallurgy - Part 2

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

Paper Id: 542 [\[Abstract\]](#)

16:45: [MoltenTuePM211] OS Plenary

New Research Lines in the Synthesis of Alloys and Compounds via the FFC-Cambridge Electro-deoxidation Process

Carsten Schwandt¹; ¹University of Nizwa, Nizwa, Oman;

Paper Id: 282 [\[Abstract\]](#)

17:10: [MoltenTuePM212] OS Plenary

Deoxidation of titanium using rare earth metals as deoxidation agents in molten salt electrolyte

Takanari Ouchi¹; Toru Okabe¹; ¹The University of Tokyo, Tokyo, Japan;

Paper Id: 196 [\[Abstract\]](#)

17:35 Break

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION:
MedicineTueAM-R1

Tue. 29 Nov. 2022 /

Room: **Ballroom B**

Session Chairs: Nguyen Tran; Session Monitor: TBA

**Intl. Symp. on Technological Innovations
in Medicine for Sustainable Development**

11:30: [MedicineTueAM01] OL Plenary

Modeling Induction of Neurofibrillary Tangle Formation in Alzheimer's Disease

Jeff Kuret¹ ; ¹Ohio State University, Columbus, United States;

Paper Id: 402 [\[Abstract\]](#)

11:55: [MedicineTueAM02] OS Plenary

**AN INNOVATIVE DIRECT CARDIAC COMPRESSION CARDIAC ASSIST DEVICE
FOR TREATING END-STAGE HEART FAILURE**

Nguyen Tran¹ ; Jean-philippe Jehl² ; Pablo Maureira^{3,0} ; ¹, Nancy, France; ²Institut
Jean Lamour - Université de Lorraine, Nancy, France; ³INSERM U961, Nancy, France;

Paper Id: 508 [\[Abstract\]](#)

12:20: [MedicineTueAM03] OL Plenary

Transport Oncophysics and Silicon-Based Medicine

Mauro Ferrari¹ ; ¹University of Washington, Seattle, Washington, United States;

Paper Id: 511 [\[Abstract\]](#)

12:45: [MedicineTueAM04] OL Plenary

Research on research: bird's eye views on science and its reproducibility

John Ioannidis¹ ; ¹Stanford University, United States, United States;

Paper Id: 515 [\[Abstract\]](#)

13:10 LUNCH

SESSION: OxidativeTuePM1-R1	Yoshikawa International Symposium (2nd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings)
Tue. 29 Nov. 2022 / Room: Ballroom B	
Session Chairs: Shigeru Hirano ; Session Monitor: TBA	

14:00: [OxidativeTuePM105] OS Plenary

Antioxidant treatment for Long- COVID and mRNA vaccine side effects

Haruhiko Inufusa¹; Fuhua Yang¹; Naomi Okada²; Toshikazu Yoshikawa³; ¹Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-Oxidant Research, Life Science Research Center, Gifu University, Gifu, Japan; ³Louis Pasteur Center, Kyoto, Japan;
Paper Id: 425 [\[Abstract\]](#)

14:25: [OxidativeTuePM106] OS

Role of Antioxidants in Oxidative Stress Induced by High Intake of Alcohol

Fuhua Yang¹; Yoshiaki Harakawa²; Toshikazu Yoshikawa³; Haruhiko Inufusa¹; ¹Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-oxidant Research, Gifu University, Gifu, Japan; ³Louis Pasteur Center, Kyoto, Japan;
Paper Id: 429 [\[Abstract\]](#)

14:50: [OxidativeTuePM107] OS

Potential for Antioxidant Therapy for Diabetes and Diabetic Complications

Yoshiaki Harakawa¹; Fuhua Yang²; Toshikazu Yoshikawa³; Haruhiko Inufusa²; ¹Division of Anti-oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ³Louis Pasteur Center, Kyoto, Japan;
Paper Id: 426 [\[Abstract\]](#)

15:15: [OxidativeTuePM108] OS

ANTI-OXIDANT TWENDEE X FOR MAINTENANCE OF VOCAL AND SWALLOWING FUNCTION

Shigeru Hirano⁴; Yoichiro Sugiyama²; Haruhiko Inufusa³; Toshikazu Yoshikawa⁴; ¹Kyoto Prefectural University of Medicine, Kyoto, Japan; ²Department of Otolaryngology-Head and Neck Surgery, Kyoto Prefectural University of Medicine, Kyoto, Japan; ³Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ⁴Louis Pasteur Center, Kyoto, Japan;
Paper Id: 94 [\[Abstract\]](#)

15:40 Break

SESSION: MedicineTuePM2-R1 Tue. 29 Nov. 2022 / Room: Ballroom B <u>Session Chairs</u> : Osamu Kimura; <u>Session Monitor</u> : TBA	Intl. Symp. on Technological Innovations in Medicine for Sustainable Development
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15:55: [MedicineTuePM209] OS Plenary

Non-invasive cancer therapy with the latest medical technologies and a new treatment concept

Shinichi Hori¹; Atsushi Hori¹; Tatsuya Nakamura¹; ¹Institute for Image Guided Therapy, Izumisano, Japan;
Paper Id: 460 [\[Abstract\]](#)

16:20: [MedicineTuePM210] OS Plenary

Novel Immunotherapy Treatment of Cancer

Osamu Kimura¹; ¹Tokyo CA Clinic, Tokyo, Japan;
Paper Id: 450 [\[Abstract\]](#)

16:45: [MedicineTuePM211] OS

Modeling and prediction of the moisture sorption kinetics for lyophilized glassy formulations

Kyuya Nakagawa¹; ¹Kyoto University, Kyoto, Japan;
Paper Id: 466 [\[Abstract\]](#)

17:10: [MedicineTuePM212] OS

Novel Aminoglycoside Antibiotics That Evade Bacterial Resistance Mechanisms

Dev Arya¹; ¹Clemson University, Clemson, United States;
Paper Id: 182 [\[Abstract\]](#)

17:35 Break

18:15: [MedicineTuePM314] OS Keynote

VIRUS ENTROPIC CHARACTERISTICS

Grigory Korablev¹; ¹Izhevsk state agricultural academy, Izhevsk, Russian Federation;
Paper Id: 168 [\[Abstract\]](#)

19:00 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION:
SISAMTueAM-R2

**Mizutani International Symposium (6th Intl.
Symp. on Science of Intelligent & Sustainable
Advanced Materials (SISAM))**

Tue. 29 Nov. 2022 /

Room: **Ballroom A**

Session Chairs: Norihiko **Okamoto**; Session Monitor: TBA

11:30: [SISAMTueAM01] OS Invited

Higher Manganese Silicides: Incommensurability and Thermoelectric Properties

Yuzuru Miyazaki¹; Nagendra. S. Chauhan¹; Kei Hayashi¹; ¹Tohoku University,
Sendai, Japan;

Paper Id: 422 [\[Abstract\]](#)

11:55: [SISAMTueAM02] OS Invited

**Improvement of thermoelectric conversion properties by controlling defects in
half-Heusler NiZrSn compounds**

Hidetoshi Miyazaki¹; ¹Nagoya Institute of Technology, Nagoya, Japan;

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

12:20: [SISAMTueAM03] OS Invited

**Anisotropic Transport Properties in an Iron Aluminide Consisting of a Tunnel
Framework Structure and Guest Aluminum Atoms**

Norihiko Okamoto¹; Kosuke Fujiwara¹; Tomoki Hayashi¹; Tetsu Ichitsubo¹; ¹Tohoku
University, Sendai, Japan;

Paper Id: 434 [\[Abstract\]](#)

SESSION:
SISAMTuePM1-R2

**Mizutani International Symposium (6th Intl.
Symp. on Science of Intelligent & Sustainable
Advanced Materials (SISAM))**

Tue. 29 Nov. 2022 /

Room: **Ballroom A**

Session Chairs: Shigeru **Horii**; Session Monitor: TBA

14:00: [SISAMTuePM105] OS Invited

**Materials development, module fabrication, and module evaluation for high-
temperature thermoelectric power generation**

Michihiro Ohta¹; Philipp Sauerschnig²; Kazuki Imasato²; Priyanka Jood²; Takao
Ishida²; Atsushi Yamamoto²; ¹National Institute of Advanced Industrial Science and
Technolog (AIST), Tsukuba, Japan; ²National Institute of Advanced Industrial Science
and Technology (AIST), Tsukuba, Japan;

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

14:25: [SISAMTuePM106] OS Invited

Recent progress in tri-axial magnetic alignment techniques

Shigeru Horii¹; Ataru Ichinose²; ¹Kyoto University of Advanced Science, Kyoto, Japan; ²CRIEPI, Yokosuka, Japan;

Paper Id: 391 [\[Abstract\]](#)

14:50: [SISAMTuePM107] OL Invited

Challenges for fluoride-ion conductors: Designing fluoride-ion conduction into layered materials

Tsuyoshi Takami¹; ¹Kyoto University, Kyoto, Japan;

Paper Id: 393 [\[Abstract\]](#)

SESSION: SISAMTuePM2-R2 Tue, 29 Nov. 2022 / Room: Ballroom A <u>Session Chairs:</u> Hiroshi Sakurai ; <u>Session Monitor:</u> TBA	Mizutani International Symposium (6th Intl. Symp. on Science of Intelligent & Sustainable Advanced Materials (SISAM))
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15:55: [SISAMTuePM209] OS Invited

Complex LPSO-type Mg alloys – a unique cluster-induced stabilization

Eiji Abe¹; ¹University of Tokyo, Tokyo, Japan;

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

16:20: [SISAMTuePM210] OS Invited

Characterization of Battery Materials by X-ray Compton Scattering

Hiroshi Sakurai¹; Kosuke Suzuki¹; **Tsuyoshi Takami**²; Yoshiharu Uchimoto²; Naruki Tshuji³; Arun Bansil⁴; Bernardo Barbiellini⁵; Kazushi Hoshi¹; Yoshiharu Sakurai³; ¹Gunma University, Kiryu, Japan; ²Kyoto University, Kyoto, Japan; ³JASRI, Sayo, Japan; ⁴Northeastern University, Boston, United States; ⁵LUT University, Lappeenranta, Finland;

Paper Id: 401 [\[Abstract\]](#)

16:45: [SISAMTuePM211] OS Invited

Structure-Dynamics Relationships in Metallic Glasses

Jürgen Eckert¹; ¹Erich Schmid Institute of Materials Science, Austrian Academy of Sciences & Montanuniversität Leoben, Leoben, Austria;

Paper Id: 500 [\[Abstract\]](#)

SESSION: SISAMTuePM3-R2	Mizutani International Symposium (6th Intl. Symp. on Science of Intelligent & Sustainable Advanced Materials (SISAM))
Tue. 29 Nov. 2022 / Room: Ballroom A	
<u>Session Chairs:</u> Jürgen Eckert ; <u>Session Monitor:</u> TBA	

17:50: [SISAMTuePM313] OS Invited

Atomic vibrations and trimeron order of the Verwey transition

Dominik Legut¹; ¹VSB - Technical University of Ostrava, Ostrava, Czech Republic;

Paper Id: 357 [\[Abstract\]](#)

18:15: [SISAMTuePM314] OS Invited

Verification of T-x-y diagrams for the Ag-Cu-Ni-Au-Sn system

Vasily Lutsyk¹; Vera Vorob'eva¹; **Maria Parfenova**¹; ¹Institute of Physical Materials Science SB RAS, Ulan-Ude, Russian Federation;

Paper Id: 209 [\[Abstract\]](#)

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: MetalsTueAM-R3	Dmitriev International Symposium (6th Intl. Symp. on Sustainable Metals & Alloys Processing)
Tue. 29 Nov. 2022 / Room: Arcadia 1	
<u>Session Chairs:</u> Madali Naimanbayev; <u>Session Monitor:</u> TBA	

11:30: [MetalsTueAM01] OS Plenary

PHYSICOCHEMICAL BASES OF PYROMETALLURGICAL PROCESSING OF TITANOMAGNETITE ORES CONTAINING VARIOUS AMOUNTS OF TITANIUM DIOXIDE

Andrey Dmitriev¹; Galina Vitkina²; Roman Alektorov¹; Elena Vyaznikova¹; ¹Institute of Metallurgy of the Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russian Federation; ²Institute of Metallurgy of Ural Branch of Russian, Amundsen st., Russia;

Paper Id: 187 [\[Abstract\]](#)

11:55: [MetalsTueAM02] OS Keynote

Possibility of Separation of Chrome from Titanium in Ilmenite Concentrate
Madali Naimanbayev¹; ¹Satbayev University, Institute of Metallurgy, Almaty, Kazakhstan;
Paper Id: 191 [\[Abstract\]](#)

12:20: [MetalsTueAM03] OS

KINEMATIC VISCOSITY, SURFACE TENSION, and DENSITY of PIPE STEEL in LIQUID STATE

Vladimir Tsepelev¹; Yuri Starodubtsev²; Kai-ming Wu³; Nadezda Konovalova⁴; ¹Boris Yeltzin Ural Federal University, Ekaterinburg, Russian Federation; ²Gammamet Research & Production Enterprise, Ekaterinburg, Russian Federation; ³International Research Institute for Steel Technology, Wuhan University of Science and Technology, Wuhan, China; ⁴Boris Yeltsin Ural Federal University, Ekaterinburg, Russian Federation;
Paper Id: 195 [\[Abstract\]](#)

12:45: [MetalsTueAM04] OS

Analysis Of Aluminum And Silica Inclusion In Low And High Carbon Steels

Igor Pereira¹; **Paulo Assis**²; Gilberto Fernandes Lima³; Tiago Oliveira⁴; ¹Universidade Federal de Ouro Preto, Ouro Preto, Brazil; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil; ³UEMG-Universidade do Estado de Minas Gerais, João Monlevade, Brazil; ⁴Redemat UFOP, Itabirito, Brazil;
Paper Id: 176 [\[Abstract\]](#)

13:10 LUNCH

SESSION: IronTuePM1-R3	Poveromo International Symposium (8th Intl. Symp. on Advanced Sustainable Iron & Steel Making)
Tue. 29 Nov. 2022 / Room: Arcadia 1	
<u>Session Chairs:</u> Tateo Usui ; <u>Session Monitor:</u> TBA	

14:00: [IronTuePM105] OS

Effect of Ash Component in Platy Coke on Melting Behavior of Iron

Taichi Murakami¹; Daisuke Maruoka²; Eiki Kasai¹; ¹Graduate School of Environmental Studies, Tohoku University, Sendai, Japan; ²Tohoku University, Sendai, Japan;
Paper Id: 22 [\[Abstract\]](#)

14:25: [IronTuePM106] OS

Production and application of low silica self-fluxed pellets in Shougang Jingtang

Gele Qing¹; Minge Zhao²; Gang An³; Kai Wang³; Zhixing Zhao¹; ¹Shougang Research Institute of Technology, Beijing, China; ²Shougang Group Co., Ltd, Beijing, China; ³Shougang Jingtang United Iron & Steel CO., Ltd, Tangshan, China;

Paper Id: 90 [\[Abstract\]](#)

14:50: [IronTuePM107] OS

Relating Physical and Metallurgical Properties of Kumba Lump Ore to the behaviour in processes

Kobus Vreugdenburg¹; Jacques Muller¹; ¹Anglo American, Pretoria, SouthAfrica;

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

15:15: [IronTuePM108] OS

Evaluating Kumba Lump Ore Performance in a Blast Furnace Burden

Jacques Muller¹; Kobus Vreugdenburg¹; ¹Anglo American, Pretoria, SouthAfrica;

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

15:40 Break

SESSION: IronTuePM2-R3	Poveromo International Symposium (8th Intl. Symp. on Advanced Sustainable Iron & Steel Making)
Tue. 29 Nov. 2022 / Room: Arcadia 1	
<u>Session Chairs:</u> Taichi Murakami; <u>Session Monitor:</u> TBA	

15:55: [IronTuePM209] OS Plenary

The State-of-the-art Gas Carburizing Method of Solid Steel for Minimizing Both Hydrocarbon Use and CO2 Emission by Selective Removal of H2 from the Furnace

Tateo Usui¹; Tomoyuki Mizukoshi²; Yujiro Yokoyama³; Hideaki Hoshino³; Itsuo Ishigami⁴; Hirokazu Konishi⁵; ¹Osaka University, Ibaraki, Japan; ²Osaka Research Institute of Industrial Science and Technology, Izumi, Japan; ³Izumi Center, Osaka Research Institute of Industrial Science and Technology, Izumi, Japan; ⁴Osaka Prefecture Federation of Small Business Associations, Osaka, Japan; ⁵Osaka University, Suita, Japan;

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

16:20: [IronTuePM210] OS

COURSE50 project for Innovative Ironmaking Technology Development Using Hydrogen

Yutaka Ujisawa¹; ¹Nippon Steel Corporation, Chiyoda-ku, Japan;

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

16:45: [IronTuePM211] OS

Hydrogen in The Blast Furnace or DRI: a Curse or Blessing Towards Sustainable Ironmaking

Renard Chaigneau¹; Maarten Geerdes²; ¹Baffinland, Amsterdam, Netherlands; ²Geerdes Advies, Castricum, Netherlands;

Paper Id: 118 [\[Abstract\]](#)

17:10: [IronTuePM212] OS

New variants of T-x diagram with three allotropes of iron

Maria Parfenova¹; Vasily Lutsyk¹; Vera Vorob'eva¹; Anna Barlukova²; ¹Institute of Physical Materials Science SB RAS, Ulan-Ude, Russian Federation; ²Dorzhi Banzarov Buryat State University, Ulan-Ude, Russian Federation;

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

17:35 Break

SESSION: IronTuePM3-R3	Poveromo International Symposium (8th Intl. Symp. on Advanced Sustainable Iron & Steel Making)
Tue. 29 Nov. 2022 / Room: Arcadia 1	
<u>Session Chairs:</u> Michal Ksiazek; <u>Session Monitor:</u> TBA	

17:50: [IronTuePM313] OS

Verification of T-x-y diagrams on the boundary of Fe-Ni-Co-Cu-S system

Vasily Lutsyk¹; Vera Vorob'eva¹; Anna Zelenaya¹; Maria Parfenova¹; ¹Institute of Physical Materials Science SB RAS, Ulan-Ude, Russian Federation;

Paper Id: 273 [\[Abstract\]](#)

18:15: [IronTuePM314] OS

BIOCOKE FOR MANGANESE ALLOY PRODUCTION

Michal Ksiazek¹; Nicholas Smith Hansen¹; Michał Rejdak²; Robert Baron³; Sten Yngve Larsen⁴; ¹SINTEF, Trondheim, Norway; ²Institute of Energy and Fuel Processing Technology, Zabrze, Poland; ³Koksownia Częstochowa Nowa, Warszawa, Poland; ⁴Eramet AS, Porsgrunn, Norway;

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

19:00 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: LawsTueAM-R4	Nolan International Symposium (2nd Intl Symp on Laws & their Applications for Sustainable Development)
Tue. 29 Nov. 2022 / Room: Arcadia 3	
Session Chairs: Malcolm McNeal; Session Monitor: TBA	

11:30: [LawsTueAM01] OS Plenary

Sustainability and Free Trade: What is the right Path?

Mathew Nolan¹; ¹ARENTFOX SCHIFF LLP, Washington, United States;

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

11:55: [LawsTueAM02] OS Plenary

Sustainability and Competition Law in Digital Economy

Barbora Jedlickova¹; ¹TC Beirne School of Law, St Lucia, Australia;

Paper Id: 389 [\[Abstract\]](#)

12:20: [LawsTueAM03] OS Plenary

The Right of Employees to Participate in Company Restructuring: «Capability for voice» in the Canadian legal framework

Migen Dibra¹; ¹Migen Dibra Law Office, Montreal, Canada;

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

12:45: [LawsTueAM04] OS Plenary

Common versus Civil Law systems and Appointed Versus Elected Judicial Systems: Advantages and Disadvantages

Florian Kongoli¹; ¹FLOGEN Stars Outreach, Montreal, Canada;

Paper Id: 555 [\[Abstract\]](#)

SESSION: LawsTuePM1-R4	Nolan International Symposium (2nd Intl Symp on Laws & their Applications for Sustainable Development)
Tue. 29 Nov. 2022 / Room: Arcadia 3	
Session Chairs: Daniel Shanley; Session Monitor: TBA	

14:00: [LawsTuePM105] OS Plenary

International Bribery and Corruption, Impacts on Sustainability and International Commerce

Mathew Nolan¹; ¹ARENTFOX SCHIFF LLP, Washington, United States;

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

14:25: [LawsTuePM106] OS Plenary

Trends in patents by technology, international filing strategies, hot topics in US law

Daniel Shanley¹; ¹Hunton Andrews Kurth LLP, Chevy Chase, United States;

Paper Id: 498 [\[Abstract\]](#)

14:50: [LawsTuePM107] OS Plenary

The Kingdom of Thailand's Model Production Sharing Contract

Joseph Tomkiewicz¹; ¹Tilleke & Gibbins, Bangkok, Thailand;

Paper Id: 154 [\[Abstract\]](#)

15:15: [LawsTuePM108] OS Plenary

The Law and Governance in Golf Courses

Edna Sellorriquez Pana¹; ¹, Manila, Philippines;

Paper Id: 496 [\[Abstract\]](#)

15:40 Break

SESSION: LawsTuePM2-R4	Nolan International Symposium (2nd Intl Symp on Laws & their Applications for Sustainable Development)
Tue. 29 Nov. 2022 / Room: Arcadia 3	
<u>Session Chairs:</u> Mathew Nolan; <u>Session Monitor:</u> TBA	

15:55: [LawsTuePM209] OS Plenary

The Methane and the Blue Ocean Event-two disruptive worldwide phenomena

Giovanni Era¹; ¹ZPF-Zero Pollution Fuel Association (not-for-profit), Bari, Italy;

Paper Id: 473 [\[Abstract\]](#)

16:20: [LawsTuePM210] OS Plenary

10 main problems of the world

Giovanni Era¹; ¹ZPF-Zero Pollution Fuel Association (not-for-profit), Bari, Italy;

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

16:45: [LawsTuePM211] OS Plenary

Producing Hydrogen from water: the ZPF (Zero Pollution Fuel) Research Project

Giovanni Era¹; ¹ZPF-Zero Pollution Fuel Association (not-for-profit), Bari, Italy;

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

SESSION: RecyclingTueAM-R5	Kolomaznik International Symposium (8th Intl. Symp. on Sustainable Materials Recycling Processes & Products)
Tue. 29 Nov. 2022 / Room: Arcadia 2	
Session Chairs: Juergen Antrekowitsch; Session Monitor: TBA	

11:30: [RecyclingTueAM01] OS

Look for Long Term Solutions for the Bayer Red Mud Problem: an Industrial Ecology Approach

Paulo Von Kruger¹; ¹MVK Consultoria e Treinamento, Belo Horizonte, Brazil;

Paper Id: 165 [\[Abstract\]](#)

11:55: [RecyclingTueAM02] OS

Assessment of By-products from Metal Producing Industry – Development of a Certification Procedure and Case Study “Dust from Secondary Copper Industry”

Gustav Hanke¹; Juergen Antrekowitsch²; ¹University of Leoben, Leoben, Austria; ²Christian Doppler Laboratory, Leoben, Austria;

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

12:20: [RecyclingTueAM03] OS

Ionic liquids as opportunity in the industrial development of eco-friendly processes for metal recycling : example of tantalum, palladium and gold from printed circuit boards

Stephane Pellet Rostaing¹; ¹ICSM, Bagnols sur Cèze, France;

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

12:45: [RecyclingTueAM04] OS Keynote

New Recycling Technology of Used Li-ion Batteries using Li Separation Method by Ionic Conductor; LiSMIC

Tsuyoshi Hoshino¹; ¹National Institutes for Quantum and Radiological Science and Technology (QST), Rokkasho-mura, Kamikita-gun, Japan;

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

13:10 LUNCH

SESSION: NonferrousTuePM1-R5	8th Intl. Symp. on Sustainable Non-ferrous Smelting & Hydro/Electrochemical Processing
Tue. 29 Nov. 2022 / Room: Arcadia 2	
Session Chairs: Gustav Hanke; Session Monitor: TBA	

14:00: [NonferrousTuePM105] OS Plenary

Reducing agents from biomass – an environmentally friendly solution for metallurgical processes

Juergen Antrekowitsch¹; Gustav Hanke²; ¹Chair of Nonferrous Metallurgy, University of Leoben, Leoben, Austria; ²University of Leoben, Leoben, Austria;

Paper Id: 81 [\[Abstract\]](#)

14:25: [NonferrousTuePM106] OS

Flogen Contop – An Integrated Design, Decision-Making, Control, Optimization and Automation System For Pierce Smith Converters Coupled With Raw Materials Management

Florian Kongoli¹; Marcos De Souza²; ¹FLOGEN Technologies, Mont-Royal, Canada; ²FLOGEN Technologies Inc, Sao Paulo, Brazil;

Paper Id: 551 [\[Abstract\]](#)

14:50: [NonferrousTuePM107] OS

Calcined Clay Blended Cements For Sustainable Cement Production

Ran Li¹; Marlene Schmid¹; Aleksandar Jaglicic¹; Tongbo Sui²; Johann Plank³; ¹Technical University of Munich (TUM), Garching, Germany; ²Sinoma Int'l & Sinoma Research Institute, Chaoyang District, Beijing, China; ³Technical University of Munich, Garching, Germany;

Paper Id: 141 [\[Abstract\]](#)

15:15: [NonferrousTuePM108] OS

Towards carbon negative: the potential of biochar concrete as a sustainable and resilient construction material

Harn Wei Kua¹; ¹Department of the Built Environment, Singapore, Singapore;

Paper Id: 318 [\[Abstract\]](#)

15:40 Break

SESSION: NonferrousTuePM2-R5	8th Intl. Symp. on Sustainable Non-ferrous Smelting & Hydro/Electrochemical Processing
Tue. 29 Nov. 2022 / Room: Arcadia 2	
<u>Session Chairs:</u> Harn Wei Kua; <u>Session Monitor:</u> TBA	

15:55: [NonferrousTuePM209] OS Keynote

Climate Change: Consequences for the Global Construction Industry

Johann Plank¹; ¹Technical University of Munich, Garching, Germany;

Paper Id: 325 [\[Abstract\]](#)

16:20: [NonferrousTuePM210] OS Plenary

**NATURAL RESOURCES AND MINERAL PROCESSING TECHNOLOGIES:
CURRENT STATUS & FUTURE PROSPECTS**

Ganzorig Chimed¹; ¹Center for Nanoscience and Nanotechnology at the National University of Mongolia, Ulaanbaatar, Mongolia;

Paper Id: 524 [\[Abstract\]](#)

16:45: [NonferrousTuePM211] OS Keynote

Research Progress on Mining with Backfill Technology of Underground Metalliferous Mine

Lijie Guo¹; ¹University of Toronto, Toronto, China;

Paper Id: 495 [\[Abstract\]](#)

17:10: [NonferrousTuePM212] OS

INVESTIGATION OF SELECTIVE DISINTEGRATION FEASIBILITY OF GOLD-BEARING ORES

Nadezhda Nikolaeva¹; Tatyana Aleksandrova²; ¹National mineral resources university, St. Petersburg, Russian Federation; ²National Mineral Resources University, Sain-Peterburg, Russian Federation;

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

17:35 Break

SESSION: NonferrousTuePM3-R5	8th Intl. Symp. on Sustainable Non-ferrous Smelting & Hydro/Electrochemical Processing
Tue. 29 Nov. 2022 / Room: Arcadia 2	
<u>Session Chairs:</u> Ganzorig Chimed; <u>Session Monitor:</u> TBA	

17:50: [NonferrousTuePM313] OS

MECHANICAL AND DURABILITY EVALUATION OF CONCRETE PREPARED WITH RECYCLED AGGREGATE AND TREATED WASTEWATER

Sara Ahmed¹; Yazan Alhoubi¹; Nouran Elmesalami¹; Sherif Yehia¹; **Farid Abed¹**; ¹American University of Sharjah, Sharjah, United Arab Emirates;
Paper Id: 311 [\[Abstract\]](#)

18:15: [NonferrousTuePM314] OS

Synthesis of green cement from incinerator residues and carbonation activation

Yixin Shao¹; Zaid Ghoul²; ¹Civil Eng Department, McGill University, Montreal, Canada; ²McGill University, Montreal, Canada;
Paper Id: 183 [\[Abstract\]](#)

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: SolidStateChemistryTueAM-R6	Alario-Franco international Symposium (2nd Intl Symp on Solid State Chemistry for Applications & Sustainable Development)
Tue. 29 Nov. 2022 / Room: Andaman 1	
<u>Session Chairs:</u> Belén Levenfeld ; <u>Session Monitor:</u> TBA	

11:30: [SolidStateChemistryTueAM01] OS Plenary

Solid State Ionics - A Brief History, Unresolved Problems and Plenty of Room

Manfred Martin¹; ¹RWTH Aachen University, Aachen, Germany;
Paper Id: 237 [\[Abstract\]](#)

11:55: [SolidStateChemistryTueAM02] OS Keynote

Percolation Effects during Ionic Motion

Manfred Martin¹; ¹RWTH Aachen University, Aachen, Germany;
Paper Id: 236 [\[Abstract\]](#)

12:20: [SolidStateChemistryTueAM03] OS

A Brief History of Entropy

Samirkumar Saha¹; ¹Jadavpur University, KOLKATA, India;

Paper Id: 163 [\[Abstract\]](#)

12:45: [SolidStateChemistryTueAM04] OS

The Influence of Excess Fe on FeSe-type Superconductors: First Principles Calculations

Karel Carva¹; ¹Charles University, Praha 2, Czech Republic;

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

13:10 LUNCH

SESSION: SolidStateChemistryTuePM1-R6 Tue. 29 Nov. 2022 / Room: Andaman 1 <u>Session Chairs:</u> Hiroshi Kageyama ; <u>Session Monitor:</u> TBA	Alario-Franco international Symposium (2nd Intl Symp on Solid State Chemistry for Applications & Sustainable Development)
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14:00: [SolidStateChemistryTuePM105] OS

High sensitivity temperature probing of Mn⁴⁺ doped Li₄Ti₅O₁₂ by lifetime-based luminescence thermometry

Zoran Ristic¹; Mina Medic¹; Vesna Djordjevic¹; Sanja Kuzman¹; Mikhail G. Brik²; Miroslav Dramicanin¹; ¹University of Belgrade, Vinca Institute of Nuclear Sciences, Belgrade, Serbia and Montenegro; ²Institute of Physics, University of Tartu, Tartu 50411, Estonia;

Paper Id: 63 [\[Abstract\]](#)

14:25: [SolidStateChemistryTuePM106] OS

LUMINESCENCE THERMOMETRY BASED ON NEAR-INFRARED EMISSION OF Yb³⁺,Er³⁺:YAG

Zeljka Antic¹; Jovana Periša²; Aleksandar Ćirić³; Mina Medic²; Ivana Zeković²; Miroslav Dramicanin²; Sanja Kuzman²; ¹Vinca Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia and Montenegro; ²University of Belgrade, Vinca Institute of Nuclear Sciences, Belgrade, Serbia and Montenegro; ³Vinča Institute of Nuclear Sciences, Knjaževac, Serbia and Montenegro;

Paper Id: 62 [\[Abstract\]](#)

14:50: [SolidStateChemistryTuePM107] OS

Fixing the Misuse of Cohesive-Energies in Modeling Transition Metals & Nanoalloys

Micha Polak¹; Leonid Rubinovich¹; ¹Ben-Gurion University of the Negev, Beer-Sheva, Israel;

Paper Id: 245 [\[Abstract\]](#)

15:15: [SolidStateChemistryTuePM108] OS

The use of M. Faraday's works for the development of technologies in metallurgy and chemistry

Essen Suleimenov¹; Rustam Sharipov²; Bolysbek T. Utelbayev³; ¹Kazakh British Technical University, Almaty, Kazakhstan; ²Kazakh-British Technical University, Almaty, Kazakhstan; ³Kazakh-British Technical University, Almaty 050000, Kazakhstan;

Paper Id: 354 [\[Abstract\]](#)

15:40 Break

SESSION: SolidStateChemistryTuePM2-R6 Tue. 29 Nov. 2022 / Room: Andaman 1 <u>Session Chairs:</u> MIGUEL ANGEL ALARIO FRANCO ; <u>Session Monitor:</u> TBA	Alario-Franco international Symposium (2nd Intl Symp on Solid State Chemistry for Applications & Sustainable Development)
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15:55: [SolidStateChemistryTuePM209] OS

Highly-sensitive Luminescence Thermometry of Sm²⁺ doped in Al₂O₃ Coatings

Aleksandar Ćirić¹; Zoran Ristic²; Zeljka Antic³; Ivana Zeković²; Stevan Stojadinović⁴; Mikhail G. Brik⁵; Miroslav Dramicanin²; ¹Vinča Institute of Nuclear Sciences, Knjaževac, Serbia and Montenegro; ²University of Belgrade, Vinca Institute of Nuclear Sciences, Belgrade, Serbia and Montenegro; ³Vinca Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia and Montenegro; ⁴University of Belgrade, Faculty of Physics, Belgrade, Serbia and Montenegro; ⁵Institute of Physics, University of Tartu,, Tartu 50411, Estonia;

Paper Id: 64 [\[Abstract\]](#)

16:20: [SolidStateChemistryTuePM210] OS Keynote

Functional Oxide thin film for electronic and medical applications

Wilfrid Prellier¹; ¹CNRS, Caen, France;

Paper Id: 275 [\[Abstract\]](#)

16:45: [SolidStateChemistryTuePM211] OS

Resources from Mars, the Moon, and asteroids: Sustainably Prospecting for Materials in Space.

Kevin Hubbard¹; Linda Elkins Tanton²; ¹Arizona State University; European Space Resources Innovation Center, Luxembourg City, Luxembourg; ²Arizona State University, Tempe, United States;

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

17:10: [SolidStateChemistryTuePM212] OS

CONTRIBUTION TO MINERAL RESEARCH IN THE MUNICIPALITY OF ALGODAO DE JANDAIRA, STATE OF PARAIBA, BRAZIL, WITH EMPHASIS TO ALGODAO HILL

Francisco Souza¹; ¹IFPB, Campina Grande, Brazil;

Paper Id: 409 [\[Abstract\]](#)

17:35 Break

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: CorrosionTueAM-R7	Macdonald International Symposium (Intl Sympos. on Corrosion for Sustainable Development)
Tue. 29 Nov. 2022 / Room: Andaman 2	
<u>Session Chairs:</u> Shuijiang Geng; <u>Session Monitor:</u> TBA	

11:30: [CorrosionTueAM01] OS

Rapid Assessment Of Corrosion Susceptibility Of Mild Steel In Simulated Splash Zone Condition

Vishwanath Kalikivayi¹; Kallol Mondal²; Sudhanshu Shekhar Singh³; ¹Indian Institute of Technology Kanpur, Kanpur, India; ²IIT Kanpur, Kanpur, India; ³Indian Institute of Technology (IIT), Kanpur, KANPUR, India;

Paper Id: 202 [\[Abstract\]](#)

11:55: [CorrosionTueAM02] OS

Thermally Conversion (Cu,Fe)3O4 Spinel Coating on Solid Oxide Fuel Cell Interconnect Steel

Shuijiang Geng¹; Fuhui Wang¹; ¹Northeastern University, Shenyang, China;

Paper Id: 206 [\[Abstract\]](#)

12:20: [CorrosionTueAM03] OS

Enhanced Corrosion Resistance of Harmonic Structured Cantor Alloy in Hank's Simulated Body Fluid Solution

Debdipta Banik¹; Kei Ameyama²; Kallol Mondal³; ¹IIT Kanpur, Kanpur nagar, India; ²Ritsumeikan University, Kusatsu, Japan; ³IIT Kanpur, Kanpur, India;

Paper Id: 214 [\[Abstract\]](#)

12:45: [CorrosionTueAM04] OS

HIGH COMPATIBILITY of NANOCRYSTALLINE COATINGS with SINGLE CRYSTAL SUPERALLOYS for HIGH TEMPERATURE APPLICATIONS

Shenglong Zhu¹; ¹Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China;

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

13:10 LUNCH

SESSION:
CorrosionTuePM1-R7

**Macdonald International Symposium (Intl
Sympos. on Corrosion for Sustainable
Development)**

Tue. 29 Nov. 2022 /

Room: **Andaman 2**

Session Chairs: Junhua Dong; Session Monitor: TBA

14:00: [CorrosionTuePM105] OS

Designing High Temperature Protective Bondcoat for Ni-base Single Crystal Superalloys

Zebin Bao¹; Shenglong Zhu¹; Fuhui Wang²; ¹Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China; ²Northeastern University, Shenyang, China;

Paper Id: 216 [\[Abstract\]](#)

14:25: [CorrosionTuePM106] OS

Galvanic corrosion mechanism of cn Al–BN cbradable ceal coating system in chloride colution

Bing Lei¹; Guozhe Meng²; Ying Li³; Fuhui Wang⁴; ¹School of Chemical Engineering and Technology, Sun Yat-sen University, Zhuhai, China; ²School of Chemical Engineering and Technology, Sun Yat-sen University, zhuhai, China; ³Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China; ⁴Northeastern University, Shenyang, China;

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

14:50: [CorrosionTuePM107] OS

Atmospheric corrosion monitoring of low carbon steel by using EIS comb sensor in the typical exposure site of China

Junhua Dong¹; Xin Mu¹; ¹Shenyang National Lab for Materials Science, Shenyang, China;

Paper Id: 221 [\[Abstract\]](#)

15:15: [CorrosionTuePM108] OS

Effect of Co addition on the corrosion resistance of maraging stainless steel

Wei Wang¹; ¹, shenyang, China;

Paper Id: 223 [\[Abstract\]](#)

15:40 Break

SESSION: CoatingsTuePM2-R7	7th Intl. Symp. on Sustainable Surface & Interface Engineering: Coatings for Extreme Environments
Tue. 29 Nov. 2022 / Room: Andaman 2	
<u>Session Chairs:</u> Maude Mermillion Jimenez; <u>Session Monitor:</u> TBA	

15:55: [CoatingsTuePM209] OS Invited

High performance fire protective thin coatings for plastics

Maude Mermillion Jimenez¹; ¹Univ. Lille, CNRS, INRAE, Centrale Lille, UMR 8207 - UMET - Unité Matériaux et Transformations, F-59000 Lille, France, Villeneuve d'Ascq cedex, France;

Paper Id: 193 [\[Abstract\]](#)

16:20: [CoatingsTuePM210] OS

DESIGN OF BIOMIMETIC COATINGS TO MITIGATE DAIRY FOULING

Manon Saget¹; Sawsen Zouaghi²; Luisa Azevedo Scudeller³; Flavie Braud⁴; Guillaume Delaplace³; Vincent Thomy⁴; Yannick Coffinier⁴; Maude Mermillion Jimenez⁵; ¹UMET, Villeneuve d'Ascq, France; ²UMET laboratory, Villeneuve d'Ascq, France; ³UMET, Villeneuve d'Ascq, France; ⁴IEMN, Villeneuve d'Ascq, France; ⁵Univ. Lille, CNRS, INRAE, Centrale Lille, UMR 8207 - UMET - Unité Matériaux et Transformations, F-59000 Lille, France, Villeneuve d'Ascq cedex, France;

Paper Id: 204 [\[Abstract\]](#)

16:45: [CoatingsTuePM211] OS

Microstructural development and corrosion characteristics of prior copper coated hot dip galvanized dual phase steel

Harikrishna Kancharla¹; Gopi Kishor Mandal²; Kallol Mondal³; Sudhanshu Shekhar Singh¹; ¹Indian Institute of Technology (IIT), Kanpur, KANPUR, India; ²CSIR - National Metallurgical Laboratory, Jamshedpur, India; ³IIT Kanpur, Kanpur, India;

Paper Id: 201 [\[Abstract\]](#)

17:10: [CoatingsTuePM212] OS

Durable Basalt-Based Chemical-Bonded Coatings Served in Deep Sea Environment

Hongpeng Zheng¹; ¹Corrosion and Protection Division, National Laboratory for Materials Science, Northeastern University, Shenyang, China;

Paper Id: 207 [\[Abstract\]](#)

17:35 Break

SESSION: NanotechnologyTuePM3-R7	International Symposium on Nanotechnology for Sustainable Development
Tue. 29 Nov. 2022 / Room: Andaman 2	
<u>Session Chairs:</u> Konstantin Rodygin; <u>Session Monitor:</u> TBA	

17:50: [NanotechnologyTuePM313] OS

Based on Micro/Nanocellulose Hybrid Nanocomposites for Optics and Electronics

Serhii Nedilko¹; ¹Taras Shevchenko National University of Kyiv, Kyiv, Ukraine;

Paper Id: 137 [\[Abstract\]](#)

18:15: [NanotechnologyTuePM314] OS

Calcium carbide-based recyclable polymers from biomass-derived terpenols

Konstantin Rodygin¹; Svetlana Metlyaeva¹; Kristina Lotsman¹; Dmitriy Samoylenko¹; ¹Saint Petersburg State University, Saint Petersburg, Russian Federation;

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

19:00 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: MultiscaleTueAM-R8	Horstemeyer International Symposium (7th Intl. symp. on Multiscale Material Mechanics & Sustainable Applications)
Tue. 29 Nov. 2022 / Room: Similan 1	
<u>Session Chairs:</u> Lars Hansen; J. Brian Jordon; <u>Session Monitor:</u> TBA	

11:30: [MultiscaleTueAM01] OS

Fatigue Mechanisms of Aluminum Alloys Fabricated by Additive Friction Stir Deposition

J. Brian Jordon¹; Paul Allison¹; Ben Rutherford¹; Dustin Avery¹; ¹The University of Alabama, Tuscaloosa, United States;

Paper Id: 142 [\[Abstract\]](#)

11:55: [MultiscaleTueAM02] OS

Dislocation interactions, transient creep, and the mechanics of Earth's upper mantle

Lars Hansen¹; ¹University of Minnesota, Minneapolis, United States;

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

12:20: [MultiscaleTueAM03] OS Keynote

Integrated Computational Materials Engineering for Lightweight Casting Design and Manufacturing

Alan A. Luo¹; ¹Ohio State University, Columbus, United States;

Paper Id: 140 [\[Abstract\]](#)

12:45: [MultiscaleTueAM04] OS

Prediction of particle orientation in injection molded magnet

Seong Jin Park¹; Da Seul Shin²; ¹POSCO, Pohang Iron and Steel Company, Pohang, South Korea; ²Pohang university of science and technology, Pohang, South Korea;

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

13:10 LUNCH

SESSION: MultiscaleTuePM1-R8	Horstemeyer International Symposium (7th Intl. symp. on Multiscale Material Mechanics & Sustainable Applications)
Tue. 29 Nov. 2022 / Room: Similan 1	
<u>Session Chairs:</u> Elias Aifantis; Lev Rapoport; <u>Session Monitor:</u> TBA	

14:00: [MultiscaleTuePM105] OS

Gradient enhancing classical quantum mechanical and empirical interatomic potentials [K]

Elias Aifantis¹; Avraam Konstantinidis¹; ¹Aristotle University of Thessaloniki, Thessaloniki, Greece;

Paper Id: 375 [\[Abstract\]](#)

14:25: [MultiscaleTuePM106] OS

A comparison of the elastic-plastic contact model with the experimental results in friction and wear

Lev Rapoport¹; Alexey Moshkovich²; ¹Holon Institute of technology, Holon, Israel; ², Holon, Israel;

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

14:50: [MultiscaleTuePM107] OS

In-situ TEM Observation and Atomistic simulation of pyramidal dislocations in c-axis compression of single crystal magnesium

Boyu Liu¹; Fei Liu¹; **Bin Li**²; Jian-feng Nie³; Zhiwei Shan¹; ¹Xi'an Jiaotong University, Xi'an, China; ²UNIVERSITY OF NEVADA, RENO, RENO, United States; ³Monash University, Melbourne, Australia;

Paper Id: 79 [\[Abstract\]](#)

15:15: [MultiscaleTuePM108] OS Keynote

Transmissibility in a Model of Nonlinear Double Diffusion

Amit Chattopadhyay¹; ¹Aston University, Birmingham, United Kingdom;

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

15:40 Break

SESSION: MultiscaleTuePM2-R8	Horstemeyer International Symposium (7th Intl. symp. on Multiscale Material Mechanics & Sustainable Applications)
Tue. 29 Nov. 2022 / Room: Similan 1	
<u>Session Chairs:</u> Bernhard Schrefler; Konstantinos Parisis; <u>Session Monitor:</u> TBA	

15:55: [MultiscaleTuePM209] OL Plenary

Dynamic Forerunning Fracture In Dry and Fully Saturated porous Solids

Tao Ni¹; Francesco Pesavento²; Mirco Zaccariotto¹; Ugo Galvanetto²; **Bernhard**

Schrefler³; ¹University of Padua, Padova, Italy; ²University of Padova, Padova,

Italy; ³University of Padua, Padua, Italy;

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

16:20: [MultiscaleTuePM210] OL Keynote

Atomistic-based strain gradient elasticity theory, in the framework of finite deformations

Luca Placidi¹; ¹Int. Telematic U, Rome, Italy;

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

16:45: [MultiscaleTuePM211] OS Keynote

Gradient enhancing classical quantum mechanical and empirical interatomic potentials

Konstantinos Parisis¹; Elias Aifantis¹; ¹Aristotle University of Thessaloniki,

Thessaloniki, Greece;

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

17:10: [MultiscaleTuePM212] OS

Modeling of Shock and Impact in Glass Reinforced Plastics

James Fraser¹; **Arunachalam Rajendran**¹; ¹University of Mississippi, University,

United States;

Paper Id: 413 [\[Abstract\]](#)

17:35 Break

SESSION: MultiscaleTuePM3-R8	Horstemeyer International Symposium (7th Intl. symp. on Multiscale Material Mechanics & Sustainable Applications)
Tue. 29 Nov. 2022 / Room: Similan 1	
<u>Session Chairs:</u> Katerina Aifantis; Romesh Batra; <u>Session Monitor:</u> TBA	

17:50: [MultiscaleTuePM313] OL Plenary

Tailoring of Mooney-Rivlin Parameters for Optimal Stress Distribution during Bending and Radial Expansion of Cylinders and Spheres

Romesh Batra¹; ¹Department of Biomedical Engineering & Mechanics, Virginia Polytechnic Institute and State University, Virginia, United States;

Paper Id: 264 [\[Abstract\]](#)

18:15: [MultiscaleTuePM314] OS

Study of Stress Evolution in Spherical Electrode Particles

Bo Wang¹; Katerina Aifantis²; ¹Univ. of Florid, Gainesville, United States; ²University of Florida, Gainesville, United States;

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

19:30 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: BatteryTueAM-R9	Yazami International Symposium (7th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling)
Tue. 29 Nov. 2022 / Room: Similan 2	
<u>Session Chairs:</u> Serge Cosnier; Katerina Aifantis; <u>Session Monitor:</u> TBA	

11:30: [BatteryTueAM01] OL Plenary

Next-generation renewable batteries

Katerina Aifantis¹; ¹University of Florida, Florida, United States;

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

11:55: [BatteryTueAM02] OS

Diffusion at arrays of randomly distributed active sites

Giovanni Pireddu¹; **Irina Svir**²; **Alexander Oleinick**³; **Christian Andre**

Amatore⁴; ¹CNRS, Ecole Normale Supérieure, Sorbonne University, Paris,

France; ²Ecole Normale Supérieure, Department Chemistry, PARIS, France; ³CNRS,

Paris, France; ⁴CNRS & Ecole Normale Supérieure; Xiamen University, Paris, France;

Paper Id: 113 [\[Abstract\]](#)

12:20: [BatteryTueAM03] OS Plenary

Supramolecular Assemblies Based On Polymers, Glyconanoparticles And Nanotubes For Bioelectrochemical Applications

Serge Cosnier¹; ¹Grenoble Alpes university, Grenoble, France;

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

12:45: [BatteryTueAM04] OS

Comparison between Anodic Oxidation and Electrocoagulation to treat Slaughterhouse Wastewater

Miguel Sandoval¹; ¹Universidad de Guanajuato, Guanajuato, Mexico;

Paper Id: 271 [\[Abstract\]](#)

13:10 LUNCH

SESSION: BatteryTuePM1-R9	Yazami International Symposium (7th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling)
Tue. 29 Nov. 2022 / Room: Similan 2	
Session Chairs: Alain Tressaud; Xuejie Huang; Session Monitor: TBA	

14:00: [BatteryTuePM105] OS

NANO-FLUORIDE MATERIALS AS ACTIVE COMPONENTS IN PRIMARY AND SECONDARY LI-BATTERIES

Alain Tressaud¹; **Henri Groult**²; **Etienne Durand**³; **Wei Li**⁴; **Damien**

Dambournet⁵; ¹ICMCB-CNRS, University Bordeaux, Pessac, France; ²Sorbonne

University, Paris, France; ³ICMCB-CNRS, PESSAC, France; ⁴Nankai University,

Tianjin, China; ⁵Sorbonne University, Paris, France;

Paper Id: 507 [\[Abstract\]](#)

14:25: [BatteryTuePM106] OS

Cost-Effective Integration of Second-Life EV Batteries with Solar PV Systems for Commercial Buildings

Chris Mi¹; ¹San Diego State University, San Diego, United States;

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

14:50: [BatteryTuePM107] OS Keynote

UNDERSTANDING HIGH-TEMPERATURE CYCLING-INDUCED CRACK EVOLUTION AND ASSOCIATED ATOMIC-SCALE STRUCTURE IN A NI-RICH LiNi_{0.8}Co_{0.1}Mn_{0.1}O₂ LAYERED CATHODE MATERIAL

Xuejie Huang¹; Feng Tian²; Hailong Yu²; Hongxiang Ji²; Wenwu Zhao²; Zhongzhu Liu³; Robson Monteiro⁴; Rogerio Ribas⁴; Yongming Zhu⁵; Xuejie Huang⁶; ¹Songshan Lake Materials Laboratory, Dongguan City, China; ²Songshan Lake Materials Laboratory, Dongguan, China; ³CITC-METAL, Beijing, China; ⁴Companhia Brasileira de Metalurgia e Mineração, Araxá/Minas Gerais, Brazil; ⁵Harbin Institute of Technology at Weihai, Weihai, China; ⁶Songshan Lake Materials Lab, Dongguan, China;
Paper Id: 483 [\[Abstract\]](#)

15:15: [BatteryTuePM108] OS Keynote

Electrochemical Energy Storage and Surface/Interface Phenomena

Hervé Martinez¹; ¹Université de Pau et des Pays de l'Adour - IPREM CNRS UMR 5254, Pau, France;
Paper Id: 316 [\[Abstract\]](#)

15:40 Break

SESSION: BatteryTuePM2-R9	Yazami International Symposium (7th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling)
Tue. 29 Nov. 2022 / Room: Similan 2	
<u>Session Chairs:</u> Xuejie Huang; <u>Session Monitor:</u> TBA	

15:55: [BatteryTuePM209] OS

Statistical modelling of Lithium-Ion battery pack useful life based on cell degradation paths

Cher Ming Tan¹; ¹, Taoyuan, Taiwan;
Paper Id: 472 [\[Abstract\]](#)

Wednesday

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION:
AdvancedMaterialsWedAM-R10

Wed. 30 Nov. 2022 /

Room: **Saitong**

Session Chairs: Sang-june Choi; Luminita Andronic; Session Monitor: TBA

6th Intl. Symp. on New & Advanced Materials & Technologies for Energy, Environment, Health & Sustainable Development

11:30: [AdvancedMaterialsWedAM01] OS

Efficient light responsive (UCNPs)-Pt@MOF/Au composites for photocatalytic hydrogen evolution by harvesting from extended UV to near-infrared

Sang-june Choi¹; ¹Kyungpook National University, Daegu, South Korea;

Paper Id: 52 [\[Abstract\]](#)

11:55: [AdvancedMaterialsWedAM02] OS

PHOTOLUMINESCENT FILMS FOR LED DISPLAY LIGHTING SYSTEMS WITH BIOLOGICALLY ADEQUATE RADIATION SPECTRUM

Lyudmila Bikova¹; Nina Zhelyabovskaya¹; Valentina Lichmanova¹; Polina Merkulova¹; **Vladimir Ulasyuk**²; ¹ELTAN Corp, Fryazino, Russian Federation; ²SRC Biolumen, Fryazino, Russian Federation;

Paper Id: 287 [\[Abstract\]](#)

12:20: [AdvancedMaterialsWedAM03] OS

Black TiO₂ with enhanced visible light photocatalytic performance for wastewater pollutants degradation

Luminita Andronic¹; Cristina Cazan²; ¹Transilvania University of Brasov, Brasov, Romania; ²TRANSILVANIA UNIVERSITY OF BRASOV, Brasov, Romania;

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

12:45: [AdvancedMaterialsWedAM04] OS

SONOHYDROTHERMAL SYNTHESIS OF NANOMATERIALS

Sergey Nikitenko¹; ¹Institut de Chimie Séparative de Marcoule, Bagnols-sur-Cèze, France;

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

13:10 LUNCH

SESSION:
**AdvancedMaterialsWedPM1-
R10**

Wed. 30 Nov. 2022 /

Room: **Saitong**

Session Chairs: Daiva Sileikiene; Eduard Akim; Session Monitor: TBA

**6th Intl. Symp. on New & Advanced Materials &
Technologies for Energy, Environment, Health
& Sustainable Development**

14:00: [AdvancedMaterialsWedPM105] OS

Segregation method for processing of gold-containing copper oxidized ores, secondary quartzites and residues of chalcopyrite concentrates

Vaja Chagelishvili¹; **Rusudan Chagelishvili**²; Tsisana Gagnidze²; Nestan Gegia³; Ekaterine Ukleba³; ¹Rafael Agladze Institute Of Inorganic Chemistry and Electrochemistry, Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia; ²Ivane Javakhishvili Tbilisi State University, Rafael Agladze Institute of Inorganic Chemistry and Electrochemistry, Tbilisi, Georgia; ³Alexander Tvalchrelidze Caucasian Institute of Mineral Resources, Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia;

Paper Id: 88 [\[Abstract\]](#)

14:25: [AdvancedMaterialsWedPM106] OS

NANOPHONIC METAMATERIALS FOR PROJECTION MICRODISPLAYS

Lyudmila Bikova¹; Nina Zhelyabovskaya¹; Vladimir Ulasyuk²; ¹ELTAN Corp, Fryazino, Russian Federation; ²SRC Biolumen, Fryazino, Russian Federation;

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

14:50: [AdvancedMaterialsWedPM107] OS

Evaluation of Sprayed with Ozonated Water Spring Barley (*Hordeum vulgare* L.) Grain Quality by Chemical and Holistic Methods

Daiva Sileikiene¹; ¹Vytautas Magnus university, Kaunas, Lithuania;

Paper Id: 85 [\[Abstract\]](#)

15:15: [AdvancedMaterialsWedPM108] OS

High Density Solid Biofuel (HDSBF) technologies for circular economy

Aleksander Pekarez¹; Michail Akim²; Svetlana Rogovina³; Aleksander Berlin⁴; **Eduard Akim**¹; ¹SPbSUITD, St. Petersburg, Russian Federation; ²HSE University, Moscow, Russian Federation; ³Semenov Federal Research Center for Chemical Physics, Russian Academy of Sciences, Moscow, Russia, Russian Federation; ⁴Semenov Federal Research Center for Chemical Physics, Russian Academy of Sciences, Moscow, Russian Federation;

Paper Id: 310 [\[Abstract\]](#)

15:40 Break

SESSION: ManufacturingWedPM2-R10 Wed. 30 Nov. 2022 / Room: Saitong	3rd Intl. Symp.on Advanced Manufacturing for Sustainable Development
<u>Session Chairs:</u> Jan Dzugan; I.g. Kim; <u>Session Monitor:</u> TBA	

15:55: [ManufacturingWedPM209] OS

Special Titanium Alloys Deposition by Directed Energy Deposition System

Jan Dzugan¹; Libor Kraus¹; ¹COMTES FHT Inc., Dobrany, Czech Republic;

Paper Id: 268 [\[Abstract\]](#)

16:20: [ManufacturingWedPM210] OS

AM Deposited Beta Titanium Alloys For Biomedical Applications

Jan Dzugan¹; Sylwia Rzepa²; Matej Daniel³; Wei-chin Huang⁴; Michal Sibr⁵; Libor Kraus¹; ¹COMTES FHT Inc., Dobrany, Czech Republic; ²COMTES FHT, Dobrany, Czech Republic; ³CTU Prague, Prague, Czech Republic; ⁴ITRI, Hsinchu, Taiwan; ⁵Prospon, Kladno, Czech Republic;

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

16:45: [ManufacturingWedPM211] OS

Manufacture of the Invar Fine Metal Mask Using an Electroforming Technique

I.g. Kim¹; Y.b. Park²; ¹, Suncheon, Republic of South Korea; ²Sunchon National University, Suncheon, Republic of South Korea;

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

17:10: [ManufacturingWedPM212] OS

Microstructure Modeling of Uniform Droplet Sprayed Deposits for Mg Alloy-Based Additive Manufacturing

Charalabos Doumanidis¹; ¹Vin University, Hanoi, Vietnam;

Paper Id: 47 [\[Abstract\]](#)

17:35 Break

SESSION: ManufacturingWedPM3-R10 Wed. 30 Nov. 2022 / Room: Saitong <u>Session Chairs:</u> Charalabos Doumanidis; <u>Session Monitor:</u> TBA	3rd Intl. Symp.on Advanced Manufacturing for Sustainable Development
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17:50: [ManufacturingWedPM313] OS

Generation of fine grain layers near frictional interfaces in metal forming processes.

Sergei Alexandrov¹; ¹Institute for Problems in Mechanics, Moscow, Russian Federation;

Paper Id: 184 [\[Abstract\]](#)

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: MoltenWedAM-R11 Wed. 30 Nov. 2022 / Room: Game <u>Session Chairs:</u> Amr Henni; <u>Session Monitor:</u> TBA	Kipouros International Symposium (8th Intl. Symp. on Sustainable Molten Salt, Ionic & Glass-forming Liquids & Powdered Materials)
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11:30: [MoltenWedAM01] OS Plenary

High Carbon Dioxide Capacity and Thermophysical Properties of Aqueous Piperazine Solutions Blended with 1-Butyl-3-Methylimidazolium Acetate

Firuz Philip¹; **Amr Henni**²; ¹University of Regina, REGINA, Canada; ²University of Regina, Regina, Canada;

Paper Id: 38 [\[Abstract\]](#)

11:55: [MoltenWedAM02] OS

Selectivity of CO₂ over ethane in four [Tf₂N] and three [FSI] based ionic liquids of importance in the sweetening of natural gas

Devjyoti Nath¹; Ali Tajouri¹; **Amr Henni**²; ¹University of Regina, REGINA, Canada; ²University of Regina, Regina, Canada;

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

12:20: [MoltenWedAM03] OS

4D Computer Models of T-x-y-z Diagrams Within the Tetrahedrized Fluoride-Chloride Quaternary Reciprocal Systems To Design The Fuels of Nuclear Reactor Generation 4

Vera Vorob'eva¹; Anna Zelenaya¹; **Vasily Lutsyk**¹; Marina Lamueva²; Maria Parfenova¹; ¹Institute of Physical Materials Science SB RAS, Ulan-Ude, Russian Federation; ²Institute of Physical Materials Science, Ulan-Ude, Russian Federation;

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

12:45: [MoltenWedAM04] OS

Electrochemical Behaviour of Cobalt Oxide in Carbamide Melts

Sergei Devyatkin¹ ; Svetlana Kochetova² ; Alexandr Pisanenko¹ ; Ludmila Bogdanovich¹ ; ¹Institute of General and Inorganic Chemistry, Kiev, Ukraine; ²V.I. Vernadsky Institute of General and Inorganic Chemistry of the National Academy of Sciences of Ukraine, Kyiv, Ukraine;

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

13:10 LUNCH

SESSION: MoltenWedPM1-R11	Kipouros International Symposium (8th Intl. Symp. on Sustainable Molten Salt, Ionic & Glass-forming Liquids & Powdered Materials)
Wed. 30 Nov. 2022 / Room: Game	
<u>Session Chairs:</u> Inessa Novoselova; <u>Session Monitor:</u> TBA	

14:00: [MoltenWedPM105] OS

Continuous monitoring and control of the AlF₃ content of the cryolitic melt in aluminium electrolysis

Vicky Vassiliadou¹ ; Antonis Peppas² ; Maria Taxiarchou³ ; Ioannis Paspaliaris³ ; ¹Mytilineos Holdings S.A, Agios Nikolaos, Greece; ²National Technical University of Athens, Zografos Campus, Greece; ³National Technical University of Athens, Athens, Greece;

Paper Id: 378 [\[Abstract\]](#)

14:25: [MoltenWedPM106] OS

Electrochemical Utilization of Carbon Dioxide

Inessa Novoselova¹ ; ¹V.I. Vernadskii Institute of General and Inorganic Chemistry, National Academy of Sciences of Ukraine, Kyiv, Ukraine;

Paper Id: 70 [\[Abstract\]](#)

SESSION:
SolutionChemistryWedPM2-R11

Wed. 30 Nov. 2022 /

Room: **Game**

Session Chairs: Rukayat Shola Bojesomo; Na'il Saleh; Session Monitor: TBA

**Marcus International Symposium (Intl. symp.
on Solution Chemistry Sustainable
Development)**

15:55: [SolutionChemistryWedPM209] OS

Benzimidazole-Piperazine-Coumarin/CB7 Supramolecular PET Fluorochrome for Detection of Carnosol by Stimuli-Responsive Dye Displacement and pKa Tuning

Rukayat Shola Bojesomo¹; Na'il Saleh²; ¹United Arab Emirate University, Abu Dhabi, United Arab Emirates; ²United Arab Emirates University, Al-Ain, United Arab Emirates; Paper Id: 162 [\[Abstract\]](#)

16:20: [SolutionChemistryWedPM210] OS Keynote

Regulating Physico-Chemical Properties of Ionic Liquids as Promising Components for Enhancing the Sorption and Extraction Processes

Ramesh Gardas¹; ¹Indian Institute of Technology Madras, Chennai, India; Paper Id: 185 [\[Abstract\]](#)

16:45: [SolutionChemistryWedPM211] OS

HOST/GUEST COMPLEXATION of CINNAMIC ACID by CUCURBIT[7]URIL for ENHANCING PHOTOISOMERISATION CONVERSION

Na'il Saleh¹; ¹United Arab Emirates University, Al-Ain, United Arab Emirates; Paper Id: 23 [\[Abstract\]](#)

17:10: [SolutionChemistryWedPM212] OS

Statistical Thermodynamics Of Chemical Equilibrium In Non-Ideal Fluids: Hard Spheres, Square-Well And Coulombic Interactions

Nickolay Tkachev¹; Alexander Davydov²; Ksenia Peshkina³; ¹Institute of High-Temperature Electrochemistry RAS, Ekaterinburg, Russian Federation; ²The Institute of High Temperature Electrochemistry of the Ural Branch of the Russian Academy of Sciences, Yekaterinburg, Russian Federation; ³IHTE RAS, Ekaterinburg, Russian Federation; Paper Id: 147 [\[Abstract\]](#)

17:35 Break

SESSION: SolutionChemistryWedPM3-R11	Marcus International Symposium (Intl. symp. on Solution Chemistry Sustainable Development)
Wed. 30 Nov. 2022 / Room: Game	
<u>Session Chairs:</u> Ksenia Peshkina; <u>Session Monitor:</u> TBA	

17:50: [SolutionChemistryWedPM313] OS

STATISTICAL THERMODYNAMICS OF CHEMICAL EQUILIBRIUM IN NON-IDEAL LIQUIDS: HARD SPHERES, SQUARE-WELL AND COULOMBIC INTERACTIONS

Ksenia Peshkina¹; ¹IHTE RAS, Ekaterinburg, Russian Federation;

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

18:15: [SolutionChemistryWedPM314] OS

Molecular mechanism of the magnetic effects for elucidating magneto-chemistry of genes

Viacheslav Mikhailovich Tyutyunnik¹; Anatoly L. Buchachenko²; ¹International Nobel Information Centre (INIC), Tambov, Russian Federation; ²Institute of Chemical Physics, Russian Academy of Sciences, Moscow, Russian Federation;

Paper Id: 320 [\[Abstract\]](#)

19:00 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: covid19WedAM-R1	International Symposium on COVID-19/Infectious Diseases & their implications on Sustainable Development
Wed. 30 Nov. 2022 / Room: Ballroom B	
<u>Session Chairs:</u> Hossein Khalili ; Joao Ricardo Ribas ; <u>Session Monitor:</u> TBA	

11:30: [covid19WedAM01] OL Plenary

IL-13 is a driver of COVID-19 severity

William A. Petri¹; ¹University of Virginia, Charlottesville, United States;

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

11:55: [covid19WedAM02] OL Keynote

IgG Antibodies against SARS-CoV-2 Correlate with Days from Symptom Onset, Viral Load and IL-10

William A. Petri¹; ¹University of Virginia, Charlottesville, United States;

Paper Id: 212 [\[Abstract\]](#)

12:20: [covid19WedAM03] OS Keynote

Health Care at a Crossroad: Harnessing the Power of Resilience, Innovation, and Collaboration Towards Sustainable Development and Transformation of Healthcare Education and Practice

Hossein Khalili¹; ¹University of Wisconsin-Madison &

Interprofessional Research.Global (IPR.Global), Madison, United States;

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

12:45: [covid19WedAM04] OL Plenary

Covid 19, perspectives on human tragedy

Joao Ricardo Ribas¹; ¹Hospital Miguel Couto, Rio de Janeiro, Brazil;

Paper Id: 527 [\[Abstract\]](#)

13:10 LUNCH

SESSION: OxidativeWedPM1-R1	Yoshikawa International Symposium (2nd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings)
Wed. 30 Nov. 2022 / Room: Ballroom B	
<u>Session Chairs:</u> Koji Fukui ; Koji Abe ; <u>Session Monitor:</u> TBA	

14:00: [OxidativeWedPM105] OS Plenary

Twendee X improves cognitive function in vitamin E-deficient mice

Koji Fukui¹; Fuhua Yang²; Yugo Kato¹; Yoshiaki Harakawa³; Toshikazu

Yoshikawa⁴; Haruhiko Inufusa²; ¹Shibaura Institute of Technology, Saitama,

Japan; ²Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ³Division of

Anti-oxidant Research, Gifu University, Gifu, Japan; ⁴Louis Pasteur Medical Research

Center, Kyoto, Japan;

Paper Id: 419 [\[Abstract\]](#)

14:25: [OxidativeWedPM106] OS

Oxidative stress and hearing

Shigeru Hirano¹; ¹Kyoto Prefectural University of Medicine, Kyoto, Japan;

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

14:50: [OxidativeWedPM107] OS

Anti-oxidative approach to prevent Alzheimer's type of dementia

Koji Abe¹; Haruhiko Inufusa²; Fuhua Yang²; Toshikazu Yoshikawa³; ¹National Center

of Neurology and Psychiatry, Tokyo, Japan; ²Division of Anti-Oxidant Research, Gifu

University, Gifu, Japan; ³Louis Pasteur Center, Kyoto, Japan;

Paper Id: 423 [\[Abstract\]](#)

15:15: [OxidativeWedPM108] OS

Involvement of anti-oxidant Twendee X in immunity.

Fuhua Yang¹; Naomi Okada²; Haruhiko Inufusa¹; Toshikazu Yoshikawa³; ¹Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-Oxidant Research, Life Science Research Center, Gifu University, Gifu, Japan; ³Louis Pasteur Center, Kyoto, Japan;

Paper Id: 103 [\[Abstract\]](#)

15:40 Break

SESSION: OxidativeWedPM2-R1	Yoshikawa International Symposium (2nd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings)
Wed. 30 Nov. 2022 / Room: Ballroom B	
Session Chairs: Hironori Nakagami ; Fuhua Yang ; Session Monitor: TBA	

15:55: [OxidativeWedPM209] OS

Usefulness of Antioxidant Combination Products for Chronic Fatigue Syndrome

Fuhua Yang¹; Yoshiaki Harakawa²; Toshikazu Yoshikawa³; Haruhiko Inufusa¹; ¹Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-oxidant Research, Gifu University, Gifu, Japan; ³Louis Pasteur Center, Kyoto, Japan;

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

16:20: [OxidativeWedPM210] OS

Antioxidants and Cancer Cells

Fuhua Yang¹; Yoshiaki Harakawa²; Naomi Okada³; Toshikazu Yoshikawa⁴; Haruhiko Inufusa¹; ¹Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-oxidant Research, Gifu University, Gifu, Japan; ³Division of Anti-Oxidant Research, Life Science Research Center, Gifu University, Gifu, Japan; ⁴Louis Pasteur Center, Kyoto, Japan;

Paper Id: 428 [\[Abstract\]](#)

16:45: [OxidativeWedPM211] OS

A Prospective, Placebo-Controlled, Double-Blind Study to evaluate the impact of NMN (Nicotinamide Mononucleotide) on Diabetic Patients with Impaired Physical Performance.

Hironori Nakagami¹; ¹Osaka University Graduate School of Medicine, Osaka, Japan;

Paper Id: 430 [\[Abstract\]](#)

17:10: [OxidativeWedPM212] OS

The effect of anti-oxidant Twendee X on swallowing function in an animal model of dysphagia in guinea pigs

Yoichiro Sugiyama¹ ; Keiko Hashimoto² ; Shigeru Hirano³ ; Haruhiko

Inufusa⁴ ; Toshikazu Yoshikawa⁵ ; ¹Department of Otolaryngology-Head and Neck

Surgery, Kyoto Prefectural University of Medicine, Kyoto, Japan; ²Department of

Otolaryngology-Head and Neck Surgery, Kyoto Prefectural University of Medicine,

Kyoto, Japan; ³Kyoto Prefectural University of Medicine, Kyoto, Japan; ⁴Division of Anti-

Oxidant Research, Gifu University, Gifu, Japan; ⁵Louis Pasteur Medical Research

Center, Kyoto, Japan;

Paper Id: 433 [\[Abstract\]](#)

17:35 Break

SESSION: OxidativeWedPM3-R1	Yoshikawa International Symposium (2nd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings)
Wed. 30 Nov. 2022 / Room: Ballroom B	
<u>Session Chairs:</u> Yoichiro Sugiyama ; <u>Session Monitor:</u> TBA	

17:50: [OxidativeWedPM313] OL

Nanopore Electrochemistry for Single-Molecule Analysis

Yi-tao Long¹ ; Yi-lun Ying¹ ; Ru-jia Yu¹ ; Zheng-li Hu¹ ; Si-min Lu¹ ; Hong-yuan

Chen¹ ; ¹Nanjing University, Nanjing, China;

Paper Id: 538 [\[Abstract\]](#)

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION:
OxidativeWedAM-R2

**Yoshikawa International Symposium (2nd Intl.
Symp. on Oxidative Stress for Sustainable
Development of Human Beings)**

Wed. 30 Nov. 2022 /

Room: **Ballroom A**

Session Chairs: Christian Amatore; Keke Hu; Session Monitor: TBA

11:30: [OxidativeWedAM01] OL

Bioanalysis of placenta and umbilical cord: cross-talk with maternal and child diseases and therapeutic potential of natural products

Marilia Goulart¹; Marilene Fragoso²; Raphaela Ferreira²; Alane De Oliveira²; Fabiana Moura²; Mônica Oliveira²; Tauane Rocha²; Jadriane Xavier²; Lara Valentim³; Rayane Botelho²; Jaqueline Santos²; Keyla Pires²; Monique Nova²; Camilla Mendes⁴; Karen Borbely²; Alexandre Borbely²; Antonio Euzebio Santana²; ¹Federal University of Alagoas, Maceio, Brazil; ²Universidade Federal de Alagoas, Maceio, Brazil; ³Federal Institute of Education, Science and Technology of Alagoas, Maceio, Brazil; ⁴Universidade Federal de Alagoas, MACEIO, Brazil;
Paper Id: 235 [\[Abstract\]](#)

11:55: [OxidativeWedAM02] OL Keynote

DNA Nano Self-assemblies for the Application in Cancer Diagnosis and Therapy

Jun-jie Zhu¹; ¹Nanjing University, Nanjing, China, Nanjing, China;
Paper Id: 535 [\[Abstract\]](#)

12:20: [OxidativeWedAM03] OL Keynote

Understanding the Physiological Roles of Oxidative Stress-induced Granules Using Micro/nano Electrochemical Measurements at Single Cell and Sub-cellular Levels

Keke Hu¹; Kim Long Le Vo²; Alicia Lork³; Andrew Ewing³; ¹Xiamen University, Xiamen, China; ²Gothenburg University, Gothenburg, Sweden; ³Gothenburg University, gothenburg, Sweden;
Paper Id: 531 [\[Abstract\]](#)

12:45: [OxidativeWedAM04] OL Keynote

Developing New Tools for Understanding the Processes of Oxidative Stress in the Brain

Yang Tian¹; ¹School of Chemistry and Molecular Engineering, East China Normal University, Shanghai, China;
Paper Id: 536 [\[Abstract\]](#)

13:10 LUNCH

SESSION:
MedicineWedPM1-R2

Wed. 30 Nov. 2022 /

Room: **Ballroom A**

Session Chairs: Shozo Yanagida; Esther Nachliel; Session Monitor: TBA

**Intl. Symp. on Technological Innovations
in Medicine for Sustainable Development**

14:00: [MedicineWedPM105] OS Keynote

Theory Verification of Excellent Iodine Therapy for Prevention and Healing of Influenza

Shozo Yanagida¹; ¹Emeritus Professor of Osaka University, Ibaraki, Japan;

Paper Id: 99 [\[Abstract\]](#)

14:25: [MedicineWedPM106] OS

Computational Reconstruction of Multi-Step Reactions

Menachem Gutman¹; Esther Nachliel²; Eran Bosis³; ¹Tel Aviv University, Ramat Gan, Israel; ²Tel Aviv University, Ramat Hasharon, Israel; ³Department of Biotechnology Engineering, ORT Braude College of Engineering, Karmiel 2161002, Israel, Israel;

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

14:50: [MedicineWedPM107] OS

Characterization of the nano scale heterogeneity at the solvent – interface of bio-structures

Esther Nachliel¹; Menachem Gutman²; ¹Tel Aviv University, Tel Aviv, Israel; ²Tel Aviv University, Ramat Gan, Israel;

Paper Id: 232 [\[Abstract\]](#)

15:15: [MedicineWedPM108] OS

Potent agent against atherosclerosis

Mariia Kaidash¹; ¹State Scientific Institution “Institute for Single Crystals” of National Academy of Sciences of Ukraine, Kharkiv, Ukraine;

Paper Id: 532 [\[Abstract\]](#)

15:40 Break

SESSION: covid19WedPM2-R2 Wed. 30 Nov. 2022 / Room: Ballroom A <u>Session Chairs:</u> Grigory Korablev ; Luc Hens ; <u>Session Monitor:</u> TBA	International Symposium on COVID-19/Infectious Diseases & their implications on Sustainable Development
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15:55: [covid19WedPM209] OS

Environmental and sustainability aspects of the Covid pandemic

Luc Hens¹; Nguyen Van Thanh²; Dang Thanh Le³; ¹Vlaamse Instelling voor Technologisch Onderzoek (VITO), , Belgium; ²Haiphong University, , Vietnam; ³National Academy of Public Administration of S.R. of Vietnam, , Vietnam;
 Paper Id: 323 [\[Abstract\]](#)

16:20: [covid19WedPM210] OS

S-curves and entropic conditions of system stabilization

Grigory Korablev¹; ¹Izhevsk state agricultural academy, Izhevsk, Russian Federation;
 Paper Id: 225 [\[Abstract\]](#)

16:45: [covid19WedPM211] OS Keynote

In Vitro Diagnostics and Smart Technologies for COVID-19 Pandemic Response: Trends, Insights and Future Directions

Sandeep Kumar Vashist¹; ¹Pictor Pvt. Ltd., Aachen, Germany;
 Paper Id: 238 [\[Abstract\]](#)

17:10: [covid19WedPM212] OS

Corona Virus Disease-2019 Symptoms and Protective Strategies

Dogan Ozdemir¹; ¹assist prof, Sulaimani, Iraq;
 Paper Id: 353 [\[Abstract\]](#)

17:35 Break

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: IronWedAM-R3	Poveromo International Symposium (8th Intl. Symp. on Advanced Sustainable Iron & Steel Making)
Wed. 30 Nov. 2022 / Room: Arcadia 1	
<u>Session Chairs:</u> Paulo Assis ; Mery-cecilia Gomez Marroquin ; <u>Session Monitor:</u> TBA	

11:30: [IronWedAM01] OS Plenary

Vision Of Iron And Steel Production Without Coal And Coke

Paulo Assis¹; ¹Federal University of Ouro Preto, Ouro Preto, Brazil;

Paper Id: 174 [\[Abstract\]](#)

11:55: [IronWedAM02] OS Keynote

THE FUTURE OF THE STEEL INDUSTRY WITH LESS GREENHOUSE GASES EMISSIONS

Alex Campos¹; Ana Laura Nascimento²; Paulo Assis³; Jorge Murta²; ¹Federal University of Ouro Preto, Ouro Branco, Brazil; ²Federal University of Ouro Preto, Ouro Preto, Brazil; ³UFOP, Ouro Preto, Brazil;

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

12:20: [IronWedAM03] OS

Integrated Systems For Byproducts And Waste Management In The Steel Plant

Raquel Correa¹; Italo Nathan Lima¹; Bernardo Leal¹; ¹Ternium Brasil, Rio de Janeiro, Brazil;

Paper Id: 283 [\[Abstract\]](#)

12:45: [IronWedAM04] OL

CHARACTERIZATION OF BRAZILIAN LD SLUDGES

Mery-cecilia Gomez Marroquin¹; Jose Carlos D'abreu²; ¹National University of Engineering, Lima, Peru; ²PUC-Rio, Rio de Janeiro, Brazil;

Paper Id: 158 [\[Abstract\]](#)

13:10 LUNCH

SESSION: IronWedPM1-R3	Poveromo International Symposium (8th Intl. Symp. on Advanced Sustainable Iron & Steel Making)
Wed. 30 Nov. 2022 / Room: Arcadia 1	
Session Chairs: Ben Ellis; Koji Saito; Session Monitor: TBA	

14:00: [IronWedPM105] OL P

Current status and future perspective of Japanese ironmaking technology for environmental solution

Koji Saito¹; ¹Nippon Steel Corporation, Futtsu City, Japan;

Paper Id: 8 [\[Abstract\]](#)

14:25: [IronWedPM106] OS

Productivity Improvement of Large Blast Furnace (4554 m3) at Jindal Steel and Power Angul, India

Ritesh Mishra¹; Nadeem Khan²; Damodar Mittal²; ¹Jindal steel & Power, Angul, India; ²Jindal Steel & Power, Angul, India;

Paper Id: 386 [\[Abstract\]](#)

14:50: [IronWedPM107] OL

Pathways to Sustainable Steelmaking Using the Hismelt Ironmaking Technology

Neil Goodman¹; ¹Smelt Tech Consulting, APPECROSS 6153, Australia;

Paper Id: 53 [\[Abstract\]](#)

15:15: [IronWedPM108] OS

Top Gas Recycling with Hydrogen – A Strategy to Reduced Blast Furnace CO2 Emissions

Ian Cameron¹; **Ben Ellis**²; ¹Hatch, Mississauga, Canada; ²BHP, Singapore, Singapore;

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

15:40 Break

SESSION: MetalsWedPM2-R3	Dmitriev International Symposium (6th Intl. Symp. on Sustainable Metals & Alloys Processing)
Wed. 30 Nov. 2022 / Room: Arcadia 1	
<u>Session Chairs:</u> Bagdaulet Kenzhaliyev; Anil K. Kar; <u>Session Monitor:</u> TBA	

15:55: [MetalsWedPM209] OS

PSWC-BAR FOR SUSTAINABLE REINFORCED CONCRETE CONSTRUCTION

Anil K. Kar¹; U. K. Chatterjee²; ¹Engineering Services International, Salt Lake City, Kolkata, India., Kolkata 700064, India; ²IIT Kharagpur (Retired Professor), Kolkata 700106, India;

Paper Id: 321 [\[Abstract\]](#)

16:20: [MetalsWedPM210] OS

POSSIBILITY OF SEPARATION OF CHROME FROM TITANIUM IN ILMENITE CONCENTRATE

Bagdaulet Kenzhaliyev¹; Omirserik Baigenzhenov²; ¹Kazakh-British Technical University, Almaty, Kazakhstan; ²Satbayev University, Almaty, Kazakhstan;

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

16:45: [MetalsWedPM211] OS

Research of problems of operation of mobile technological complexes of mine water treatment

Boris Zobnin¹; Vitaly V. Kochetkov²; ¹Уральский государственный горный университет, Екатеринбург, Russian Federation; ²Ural State Mining University, Yekaterinburg, Russian Federation;

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

17:10: [MetalsWedPM212] OS

ISSUES OF COPPER SLAG UTILIZATION AND THEIR PYROMETALLURGICAL SOLUTION

Alexander Povolotskii¹; Galymzhan Adilov²; Александр Шестаков³; Василий Рошин²; ¹South Ural State University, Chelyabinsk, Russian Federation; ²South Ural state university, Chelyabinsk, Russian Federation; ³South Ural State University, Chelyabinsk, Russian Federation;

Paper Id: 218 [\[Abstract\]](#)

17:35 Break

SESSION: MetalsWedPM3-R3	Dmitriev International Symposium (6th Intl. Symp. on Sustainable Metals & Alloys Processing)
Wed. 30 Nov. 2022 / Room: Arcadia 1	
<u>Session Chairs:</u> Shahid Hussain Abro ; Gour Gopal Roy ; <u>Session Monitor:</u> TBA	

17:50: [MetalsWedPM313] OL Invited

RHF-EAF A Sustainable Route of Steelmaking: An Exergy Analysis

Gour Gopal Roy¹; Prodip Sen²; Binay Kumar¹; ¹Indian Institute of Technology Kharagpur, Kharagpur, India; ²Retired from IIT Kharagpur, Kolkata, India;

Paper Id: 228 [\[Abstract\]](#)

18:15: [MetalsWedPM314] OS

Effect of Heat Treatment parameters on Microstructure morphology and Mechanical Properties of automotive steel

Shahid Hussain Abro¹; Guwanwook Thouth Kim²; ¹NED University of Engineering and Technology Pakistan, KARACHI, Pakistan; ²Korea Advanced Institute of Science and Technology, Daejeon, South Korea;

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

19:00 Dinner

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: MathematicsWedAM-R4	5th Intl. Symp. on Sustainable Mathematics Applications
Wed. 30 Nov. 2022 / Room: Arcadia 3	
<u>Session Chairs:</u> Tunc Aldemir ; Peter Rowlands ; <u>Session Monitor:</u> TBA	

11:30: [MathematicsWedAM01] OS Plenary

Cellular automata and the foundations of physics

Peter Rowlands¹; ¹University of Liverpool, Liverpool, United Kingdom;

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

11:55: [MathematicsWedAM02] OS Plenary

Dynamic System Analysis Using the Markov/Cell-To-Cell Mapping Technique

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

Paper Id: 75 [\[Abstract\]](#)

12:20: [MathematicsWedAM03] OS Keynote

The gradual abandonment of many types of well known experimental based physical models in favor of a more Universal Algebraic Theory: Part I – General framework

⁰; [\[Abstract\]](#)

12:45: [MathematicsWedAM04] OS Keynote

The gradual abandonment of many types of well known experimental based physical models in favor of a more Universal Algebraic Theory: Part II – Specific examples

⁰; [\[Abstract\]](#)

13:10 LUNCH

SESSION: MathematicsWedPM1-R4 Wed. 30 Nov. 2022 / Room: Arcadia 3	5th Intl. Symp. on Sustainable Mathematics Applications
<u>Session Chairs:</u> Bhadra Tuladhar ; Simone Beghella Bartoli ; <u>Session Monitor:</u> TBA	

14:00: [MathematicsWedPM105] OS Plenary

The Unified Transform

Athanassios Fokas¹; ¹University of Cambridge, Cambridge, United Kingdom;

Paper Id: 332 [\[Abstract\]](#)

14:25: [MathematicsWedPM106] OS

Possible application of pseudo-proton irradiation for cancer treatment

Simone Beghella Bartoli¹; ¹Hadronic Technologies Corporation, Montelupone, Italy;

Paper Id: 278 [\[Abstract\]](#)

14:50: [MathematicsWedPM107] OS

The mathematics of fractals and fractional calculus: New applications in science

Anastassios Bountis¹; ¹University of Patras, Patras, Greece;

Paper Id: 335 [\[Abstract\]](#)

15:15: [MathematicsWedPM108] OL

Model Development and Simulations in Multiphase Landslide, Debris Flows and Avalanches

Bhadra Tuladhar¹; ¹Kathmandu University, Kavre, Nepal;

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

15:40 Break

SESSION: MathematicsWedPM2-R4 Wed. 30 Nov. 2022 / Room: Arcadia 3 <u>Session Chairs:</u> Xinyue Ren; P. Kevrekidis; <u>Session Monitor:</u> TBA	5th Intl. Symp. on Sustainable Mathematics Applications
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15:55: [MathematicsWedPM209] OS

SINGULARLY PERTURBED SYSTEMS IN SUSTAINABLE MATHEMATICS APPLICATIONS (THEORETICAL AND APPLIED ASPECTS)

Lyudmila Kuzmina¹; ¹Kazan Aviation Institute – Kazan State University, Kazan, Russian Federation;

Paper Id: 136 [\[Abstract\]](#)

16:20: [MathematicsWedPM210] OS

HSR Sustainable Logistics for the Development in Great Montreal Area

Xinyue Ren¹; Anjali Awasthi²; Yonglin Ren³; Zuyun Ren⁴; ¹McGill University, Montreal, Canada; ²Concordia University, Montreal, Canada; ³, Montreal, Canada; ⁴WenShan University, WenShan, China;

Paper Id: 219 [\[Abstract\]](#)

16:45: [MathematicsWedPM211] OS

Generalizing Fourier transform, central limit theorem and entropy production in the realm of nonextensive statistical mechanics

Constantino Tsallis¹; ¹Group of Statistical Physics, Centro Brasileiro de Pesquisas Físicas, , Brazil;

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

17:10: [MathematicsWedPM212] OS

From discrete solitons to discrete breathers and lattice traveling waves: A discussion of spectral stability and associated criteria

P. Kevrekidis¹; ¹Department of Mathematics and Statistics, Lederle Graduate Research Tower, University of Massachusetts, Amherst, United States;

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

17:35 Break

SESSION: MathematicsWedPM3-R4 Wed. 30 Nov. 2022 / Room: Arcadia 3	5th Intl. Symp. on Sustainable Mathematics Applications
<u>Session Chairs:</u> William Oates ; Ruggero Santilli ; <u>Session Monitor:</u> TBA	

17:50: [MathematicsWedPM313] OS

Verifications and applications of the Einstein-Podolsky-Rosen argument that “Quantum mechanics is not a complete theory”

Prof. Ruggero Santilli¹; Pinchas Mandell²; ¹Thunder Energies Corporation, Tarpon Springs, United States; ²Family of Israel Foundation, , Israel;

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

18:15: [MathematicsWedPM314] OS Plenary

A search for connecting fractal structure and fractional properties in polymers

William Oates¹; ¹Florida Center for Advanced Aero-Propulsion, , United States;

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

19:00 Dinner

SESSION: NonferrousWedAM-R5 Wed. 30 Nov. 2022 / Room: Arcadia 2	8th Intl. Symp. on Sustainable Non-ferrous Smelting & Hydro/Electrochemical Processing
<u>Session Chairs:</u> Tatyana Aleksandrova ; Vasily Lutsyk ; <u>Session Monitor:</u> TBA	

11:30: [NonferrousWedAM01] OS

Verifications of T-x-y Diagrams FeO-SiO₂-Fe₂O₃ & Mg₂SiO₄-CaAl₂Si₂O₈-SiO₂

Vasily Lutsyk¹; Marina Lamueva²; Anna Zelenaya¹; Maria Parfenova¹; ¹Institute of Physical Materials Science SB RAS, Ulan-Ude, Russian Federation; ²Institute of Physical Materials Science, Ulan-Ude, Russian Federation;

Paper Id: 277 [\[Abstract\]](#)

11:55: [NonferrousWedAM02] OS Keynote

Space computer models for phase diagrams of ternary, quaternary systems to design material microstructure after verification of data interpretation

Vasily Lutsyk¹; Vera Vorob'eva¹; Anna Zelenaya¹; Maria Parfenova¹; ¹Institute of Physical Materials Science SB RAS, Ulan-Ude, Russian Federation;

Paper Id: 317 [\[Abstract\]](#)

12:20: [NonferrousWedAM03] OS

METHODS FOR THE EXTRACTION OF LOW-DIMENSIONAL NOBLE METAL STRUCTURES FROM REFRACTORY ORES

Tatyana Aleksandrova¹; Nadezhda Nikolaeva²; ¹National Mineral Resources University, Sain-Peterburg, Russian Federation; ²National mineral resources university, St. Petersburg, Russian Federation;
Paper Id: 355 [\[Abstract\]](#)

12:45: [NonferrousWedAM04] OS

A New, High_Efficiency and Eco-friendly Short Circuit Copper Production Technology

Liang Shuaibiao¹; ¹China ENFI corporation, Beijing, China;
Paper Id: 82 [\[Abstract\]](#)

13:10 LUNCH

SESSION: EnvironmentalWedPM1-R5	9th Intl. Symp. on Environmental, Policy, Management , Health, Economic , Financial, Social Issues Related to Technology & Scientific Innovation
Wed. 30 Nov. 2022 / Room: Arcadia 2	
<u>Session Chairs:</u> Francisco Souza; Pinchas Mandell; <u>Session Monitor:</u> TBA	

14:00: [EnvironmentalWedPM105] OL Plenary

BioChar, The New Black Gold

Pinchas Mandell¹; ¹Family of Israel Foundation, Accord, United States;
Paper Id: 516 [\[Abstract\]](#)

14:25: [EnvironmentalWedPM106] OL Plenary

ISOTOPIC HOUSING

Pinchas Mandell¹; ¹Family of Israel Foundation, Accord, United States;
Paper Id: 517 [\[Abstract\]](#)

14:50: [EnvironmentalWedPM107] OS

MERCURY IN BRAZILIAN ARTISANAL MINING : RELATIONS WITH ENVIRONMENTAL DEGRADATION AND HUMAN HEALTH

Francisco Souza¹; ¹IFPB, Campina Grande, Brazil;
Paper Id: 160 [\[Abstract\]](#)

15:15: [EnvironmentalWedPM108] OS

Determining Root Causes for Resource-Adequacy Blackouts on North American Electric Grids

Meredith Angwin¹; ¹Carnot Communications, Wilder, United States;

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

15:40 Break

SESSION: EcosystemsWedPM2-R5 Wed. 30 Nov. 2022 / Room: Arcadia 2	4th Intl. Symp. on Sustainability of World Ecosystems in Anthropocene Era
Session Chairs: Francis Dube ; Iqtidar Hussain ; Session Monitor: TBA	

15:55: [EcosystemsWedPM209] OS

THE INFLUENCE OF AGRICULTURE ACTIVITY ON SURFACE WATER STATUS IN LITHUANIA

Laima Cesoniene¹; Daiva Sileikienė¹; ¹Vytautas Magnus university, Kaunas, Lithuania;

Paper Id: 36 [\[Abstract\]](#)

16:20: [EcosystemsWedPM210] OS

RECYCLING OF NITROGEN THROUGH BIOLOGICAL NITROGEN FIXATION IN WHEAT BASED LEGUME INTERCROPPING SYSTEM

Iqtidar Hussain¹; ¹Department of Agronomy, Faculty of Agriculture, Gomal University,, , Pakistan;

Paper Id: 358 [\[Abstract\]](#)

16:45: [EcosystemsWedPM211] OL Keynote

The Influence of Over-mature, Degraded Native Forests with Strong Anthropic Disturbance and Its Gradual Recovery with Silvopasture in Southwestern South America

Francis Dube¹; Marianela Alfaro²; Erick Zagal³; ¹University of Concepción, Concepción, Chile; ²Universidad de Costa Rica, San José, Costa Rica; ³University of Concepción, Chillán, Chile;

Paper Id: 371 [\[Abstract\]](#)

17:10: [EducationWedPM212] OS

Education as a key factor of innovative and sustainable development

Vladimir Kirko¹; Elena Kononova²; Anna Lukyanova²; ¹Research Institute of Physics and Engineering, Krasnoyarsk, Russian Federation; ²Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russian Federation;

Paper Id: 144 [\[Abstract\]](#)

17:35 Break

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: ModellingMaterialsWedAM-R6	Modelling, Materials & Processes Interdisciplinary symposium for sustainable development
Wed. 30 Nov. 2022 / Room: Andaman 1	
<u>Session Chairs:</u> Kamyar M. Davoudi ; Yannis Kevrekidis ; <u>Session Monitor:</u> TBA	

11:30: [ModellingMaterialsWedAM01] OL Plenary

No equations, no variables, no space, no time: Data and the modeling of complex

Yannis Kevrekidis¹; ¹John Hopkins Whiting School of Engineering, Baltimore, United States;

Paper Id: 512 [\[Abstract\]](#)

11:55: [ModellingMaterialsWedAM02] OL Keynote

Characteristic length parameters in nonsingular theories of dislocations

Kamyar M. Davoudi¹; ¹Avidemia Education Inc., Vancouver, Canada;

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

12:20: [ModellingMaterialsWedAM03] OL Plenary

“Materials Intelligence” – a concept for creating robotic functionality using multi-stimuli-responsive materials

Alfonso Ngan¹; ¹University of Hong Kong, Pokfulam, Hong Kong;

Paper Id: 341 [\[Abstract\]](#)

12:45: [ModellingMaterialsWedAM04] OS

Switchable Polarization in Mn Embedded Graphene

Mazia Asghar¹; Hamid Ullah¹; ¹Riphah Internationaluniversity, Lahore Campus, Pakistan, Lahore, Pakistan;

Paper Id: 439 [\[Abstract\]](#)

13:10 LUNCH

SESSION: ModellingMaterialsWedPM1-R6	Modelling, Materials & Processes Interdisciplinary symposium for sustainable development
Wed. 30 Nov. 2022 / Room: Andaman 1	
<u>Session Chairs:</u> Michael Zaiser; Elias Aifantis; <u>Session Monitor:</u> TBA	

14:00: [ModellingMaterialsWedPM105] OS Plenary
Newton / Hooke, Fick / Fourier, and Coulomb / Maxwell revisited
Elias Aifantis¹; ¹Aristotle University of Thessaloniki, Thessaloniki, Greece;
 Paper Id: 349 [\[Abstract\]](#)

14:25: [ModellingMaterialsWedPM106] OS Plenary
Newton / Hooke, Fick / Fourier, and Coulomb / Maxwell revisited [K]
Elias Aifantis¹; ¹Aristotle University of Thessaloniki, Thessaloniki, Greece;
 Paper Id: 374 [\[Abstract\]](#)

14:50: [ModellingMaterialsWedPM107] OS Plenary
Giant strength of metal nano- and microparticles
Eugen Rabkin¹; ¹Department of Materials Science and Engineering, Technion, Technion, Israel;
 Paper Id: 343 [\[Abstract\]](#)

15:15: [ModellingMaterialsWedPM108] OS Plenary
Data analytic approaches to materials failure - from the atomic to the geoscale
Michael Zaiser¹; ¹Friedrich-Alexander U. Erlangen, Nuremburg, Germany;
 Paper Id: 342 [\[Abstract\]](#)

15:40 Break

SESSION: ModellingMaterialsWedPM2-R6	Modelling, Materials & Processes Interdisciplinary symposium for sustainable development
Wed. 30 Nov. 2022 / Room: Andaman 1	
<u>Session Chairs:</u> Paul Steinmann; Constantinos Vayenas; <u>Session Monitor:</u> TBA	

15:55: [ModellingMaterialsWedPM209] OS Plenary
Rotating Lepton Model (RLM) vs the Standard Model (SM) – Simplicity vs Complexity
Constantinos Vayenas¹; ¹University of Patras, Patras, Greece;
 Paper Id: 514 [\[Abstract\]](#)

16:20: [ModellingMaterialsWedPM210] OS Plenary
Computational Approaches Exploring the COVID-19 Pandemic
Paul Steinmann¹; ¹Friedrich-Alexander University, Erlangen, Germany;
Paper Id: 513 [\[Abstract\]](#)

16:45: [ModellingMaterialsWedPM211] OS Plenary
Celebrating the centenary of Griffith's theory
Nicola Pugno¹; ¹University of Trento, Trento, Italy;
Paper Id: 347 [\[Abstract\]](#)

17:10: [ModellingMaterialsWedPM212] OS Plenary
Designing high performance solid polymer electrolyte materials for energy storage
Spiros H. Anastasiadis¹; ¹Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Heraklion Crete, Greece;
Paper Id: 345 [\[Abstract\]](#)

17:35 Break

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: NanotechnologyWedAM-R7	International Symposium on Nanotechnology for Sustainable Development
Wed. 30 Nov. 2022 / Room: Andaman 2	
Session Chairs: Atanu Naskar ; Paulo Assis ; Session Monitor: TBA	

11:30: [NanotechnologyWedAM01] OS
Evaluation Of The Use Of Dry Doors In Plate Reheating Ovens For Hot Strip Steel Lamination
Lays Augusta Leal Carvalho¹; Alex Campos²; **Paulo Assis**³; ¹UFOP, Vitória, Brazil; ²Federal University of Ouro Preto, Ouro Branco, Brazil; ³UFOP, Ouro Preto, Brazil;
Paper Id: 173 [\[Abstract\]](#)

11:55: [NanotechnologyWedAM02] OS

Lactobacillus derived extracellular vesicles coated MoS₂-ZnO nanoplatform: A synergistic and biocompatible antibacterial agent against Staphylococcus species

Atanu Naskar¹; Hyejin Cho¹; Kwang-sun Kim¹; ¹Pusan National University, Busan, South Korea;

Paper Id: 369 [\[Abstract\]](#)

12:20: [NanotechnologyWedAM03] OS

SUSTAINABLE PRECURSORS FOR SUSTAINABLE SYNTHESIS OF TWO-DIMENSIONAL NANOMATERIALS

Eswaraiah Varrla¹; ¹SRM Institute of Science and Technology, Chengalpattu, India;

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

12:45: [NanotechnologyWedAM04] OS Invited

TWO-DIMENSIONAL NANOMATERIALS AND SUSTAINABLE PRECURSORS

Eswaraiah Varrla¹; ¹SRM Institute of Science and Technology, Chengalpattu, India;

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

13:10 LUNCH

SESSION: NanotechnologyWedPM1-R7	International Symposium on Nanotechnology for Sustainable Development
Wed. 30 Nov. 2022 / Room: Andaman 2	
<u>Session Chairs:</u> Jaroslaw Serafinczuk; Redouane Borsali; <u>Session Monitor:</u> TBA	

14:00: [NanotechnologyWedPM105] OS

Carbohydrate Block Copolymer Self-Assemblies: Nanostructured Thin Films

Redouane Borsali¹; ¹Univ Grenoble Alpes, CNRS, CERMAV, Grenoble, France;

Paper Id: 247 [\[Abstract\]](#)

14:25: [NanotechnologyWedPM106] OS

High Resolution X-Ray Diffraction Measurements Carried Out From The Edge of the Sample

Jaroslaw Serafinczuk¹; ¹Wroclaw University of Science and Technology, Wroclaw, Poland;

Paper Id: 351 [\[Abstract\]](#)

14:50: [NanotechnologyWedPM107] OS

Studying doping effect on linear and nonlinear properties of PVA/PbS nanocomposites

Ali Fatemi¹; Milad Rasouli²; Kazem Jamshidi Ghaleh¹; ¹Department of Physics, Faculty of Sciences, Azarbaijan Shahid Madani University, Tabriz, Iran; ²Kharazmi University, Tehran, Iran;

Paper Id: 269 [\[Abstract\]](#)

15:15: [NanotechnologyWedPM108] OS Invited

APPLICATION of NEWLY DEVELOPED One- or MULTILAYER COATINGS for CORROSION PROTECTION of STRUCTURAL MATERIALS

Nikolai Boshkov¹; Irina Stambolova²; Neli Boshkova¹; Daniela Stoyanova²; Tsetska Radeva¹; Kamelia Kamburova¹; Vladimir Blaskov³; ¹Institute of Physical Chemistry, Bulgarian Academy of Sciences, Sofia, Bulgaria; ²Institute of General and Onorganic Chemistry, Sofia, Bulgaria; ³Institute of Metal Science, Equipment and Technologies, Sofia, Bulgaria;

Paper Id: 4 [\[Abstract\]](#)

15:40 Break

SESSION: PhysicsWedPM2-R7 Wed. 30 Nov. 2022 / Room: Andaman 2 <u>Session Chairs:</u> Hardev Virk ; <u>Session Monitor:</u> TBA	Virk International Symposium (Intl Symp on Physics, Technology & Interdisciplinary Research for Sustainable Development)
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15:55: [PhysicsWedPM209] OS

MINI-MSfR Based on Inherently safe system: a sustainable energy alternative

Laszlo Sajo Bohus¹; Felix Pino²; ¹Universidad Simon Bolivar, Nuclear Lab, Caracas, Venezuela; ²University of Padova, Physics Dept., Legnaro Pd., Italy;

Paper Id: 242 [\[Abstract\]](#)

16:20: [PhysicsWedPM210] OL

Distribution of natural radioactive elements in soil, water and building material samples of Chamaraajanagar District, India and associated radiation dose to the population

M.s Chandrashekara¹; ¹, Karnataka State, India;

Paper Id: 544 [\[Abstract\]](#)

16:45: [PhysicsWedPM211] OS

Study of Seismic Precursory Nature of Soil Radon Recorded Simultaneously at Two Monitoring Stations in Eastern Himalayas

Saheli Chowdhury^{1,0,0,0,0,0,1}; ¹, West Bengal, India;

Paper Id: 545 [\[Abstract\]](#)

17:10: [PhysicsWedPM212] OL

Ion beam modifications of materials and their applications

Rajesh Kumar¹; ¹University School of Basic and Applied Sciences, Guru Gobind Singh Indraprastha University, New Delhi, India;

Paper Id: 539 [\[Abstract\]](#)

17:35 Break

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: ModellingWedAM-R8	Trovalusci International Symposium (17th Intl. Symp. on Multiscale & Multiphysics Modelling of 'Complex' Material (MMCM17))
Wed. 30 Nov. 2022 / Room: Similan 1	
<u>Session Chairs:</u> Fangsen Cui ; Yichao Chen ; <u>Session Monitor:</u> TBA	

11:30: [ModellingWedAM01] OS

Shape Memory Polymers

Yichao **Chen**¹; ¹University of Houston, Houston, United States;

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

11:55: [ModellingWedAM02] OS

A NEW METHOD TO DETERMINE ELASTIC PROPERTIES BY ULTRASONIC WAVES

Yue Hu¹; Lei Zhang²; **Fangsen Cui**¹; ¹Institute of High Performance Computing, A*STAR, Singapore, Singapore; ²Institute of Materials Research and Engineering, A*STAR, Singapore, Singapore;

Paper Id: 96 [\[Abstract\]](#)

12:20: [ModellingWedAM03] OS Keynote

An adaptive phase field method for modelling crack propagation in Li-ion batteries

Sundararajan Natarajan¹; Katerina Aifantis²; Bo Wang³; ¹Department of Mechanical Engineering, Indian Institute of Technology Madras, Chennai, India; ²University of Florida, Florida, United States; ³Univ. of Florid, Gainesville, United States;

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

12:45: [ModellingWedAM04] OS

FINITE LINE METHOD for THERMAL STRESS ANALYSIS of COMPOSITE STRUCTURES

Xiao-wei **Gao**¹; ¹Dalian University of Technology, Dalian, China;

Paper Id: 330 [\[Abstract\]](#)

13:10 LUNCH

SESSION: ModellingWedPM1-R8	Trovalusci International Symposium (17th Intl. Symp. on Multiscale & Multiphysics Modelling of 'Complex' Material (MMCM17))
Wed. 30 Nov. 2022 / Room: Similan 1	
<u>Session Chairs:</u> Sotos Generalis ; Avraam Konstantinidis ; <u>Session Monitor:</u> TBA	

14:00: [ModellingWedPM105] OL Keynote

Combined Gradient – Stochastic Models for Composites [K]

Avraam Konstantinidis¹; Elias Aifantis¹; ¹Aristotle University of Thessaloniki, Thessaloniki, Greece;

Paper Id: 376 [\[Abstract\]](#)

14:25: [ModellingWedPM106] OS Keynote

What can turbulence in fluids tell us about turbulence in solids?

Sotos Generalis¹; ¹Aston University, Birmingham, United Kingdom;

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

14:50: [ModellingWedPM107] OL Keynote

Multi-Physics Phase Field Modelling of Fracture, Fatigue and Environmental Damage

Emilio Paneda Martinez¹; ¹Imperial College London, Department of Civil and Environmental Engineering, London, United Kingdom;

Paper Id: 257 [\[Abstract\]](#)

15:15: [ModellingWedPM108] OS

ON OSCILLATIONS OF A THIN STRUCTURES CONSIDERING DYNAMIC AND SURFACE-RELATED FLEXOELECTRIC PROPERTIES

Victor Eremeyev¹; Mohammad Malikan¹; Svetlana Litvinchuk²; Leonid Igumnov²; ¹Gdansk University of Technology, Gdansk, Poland; ²National Research Lobachevsky State University of Nizhny Novgorod, Nizhny Novgorod, Russian Federation;

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

15:40 Break

SESSION: ModellingWedPM2-R8	Trovalusci International Symposium (17th Intl. Symp. on Multiscale & Multiphysics Modelling of 'Complex' Material (MMCM17))
Wed. 30 Nov. 2022 / Room: Similan 1	
<u>Session Chairs:</u> Christian Licht ; Lalaonirina Rakotomanana ; <u>Session Monitor:</u> TBA	

15:55: [ModellingWedPM209] OL Plenary

On fundamental role of length scale parameter for assessment of the material fracture based on new concept of stress concentration in nonsingular crack mechanics in gradient elasticity

Sergey Lurie¹; Yury Solyaev¹; ¹Institute of Applied Mechanics of RAS, Moscow, Russian Federation;

Paper Id: 307 [\[Abstract\]](#)

16:20: [ModellingWedPM210] OS

Continuum Elastoplasticity Theory : An Approach Based on Differential Geometry

Lalaonirina Rakotomanana¹; ¹Université de Rennes 1, Rennes, France;

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

16:45: [ModellingWedPM211] OS

Compression after impact of glass/epoxy laminates

Adrian Gliszczyński¹; ¹Lodz University of Technology, Lodz, Poland;

Paper Id: 129 [\[Abstract\]](#)

17:10: [ModellingWedPM212] OS

ASYMPTOTIC MATHEMATICAL MODELING OF THIN THERMOELASTIC JUNCTIONS

Christian Licht¹; Thibaut Weller²; ¹Laboratoire de Mecanique et Genie Civil, MONTPELLIER, France; ²Laboratoire de Mécanique et Génie Civil, MONTPELLIER, France;

Paper Id: 111 [\[Abstract\]](#)

17:35 Break

SESSION: MultiscaleWedPM3-R8	Horstemeyer International Symposium (7th Intl. symp. on Multiscale Material Mechanics & Sustainable Applications)
Wed. 30 Nov. 2022 / Room: Similan 1	
<u>Session Chairs:</u> Adrian Gliszczyński ; <u>Session Monitor:</u> TBA	

17:50: [MultiscaleWedPM313] OS

A physics-informed data-driven model for uncertainty quantification and reduction in metal additive manufacturing

Lei Chen¹; ¹University of Michigan-Dearborn, Dearborn, United States;

Paper Id: 250 [\[Abstract\]](#)

8:15 AM [SUMMIT PLENARY](#)

11:00 AM Break

SESSION: GeomechanicsWedAM-R9	2nd Intl Symp on Geomechanics & Applications for Sustainable Development
Wed. 30 Nov. 2022 / Room: Similan 2	
<u>Session Chairs:</u> Qing Ru Chong; Stan Pietruszczak; <u>Session Monitor:</u> TBA	

11:30: [GeomechanicsWedAM01] OS

Coupled Hydro-Mechanical Analysis of Porous Media in the Presence of Localization

Stan Pietruszczak¹; A.a. Jameei¹; ¹McMaster University, Hamilton, Canada;

Paper Id: 37 [\[Abstract\]](#)

11:55: [GeomechanicsWedAM02] OS Plenary

On indentation analysis of a rigid cylinder on an elastic beam

Qing Ru Chong¹; ¹University of Alberta, Edmonton, Canada;

Paper Id: 302 [\[Abstract\]](#)

12:20: [GeomechanicsWedAM03] OS Keynote

Gradient modeling for cavities in geomechanics

Chengzhi Qi¹; ¹Beijing University of Civil Engineering and Architecture, Beijing, China;

Paper Id: 304 [\[Abstract\]](#)

SESSION: GeomechanicsWedPM1-R9 Wed. 30 Nov. 2022 / Room: Similan 2	2nd Intl Symp on Geomechanics & Applications for Sustainable Development
<u>Session Chairs:</u> Avraam Konstantinidis; Stephane Bordas; <u>Session Monitor:</u> TBA	

14:00: [GeomechanicsWedPM105] OS Plenary

Recent advances in the modelling and simulation of fracture in heterogeneous materials

Stephane Bordas¹; ¹University of Luxembourg, Kirchberg, Luxembourg;

Paper Id: 261 [\[Abstract\]](#)

14:25: [GeomechanicsWedPM106] OS Plenary

Recent advances in the modelling and simulation of fracture in heterogeneous materials 1

Stephane Bordas¹; ¹University of Luxembourg, Kirchberg, Luxembourg;

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

14:50: [GeomechanicsWedPM107] OL Keynote

Studying the statistics of landslide phenomena for mitigating their impact

Avraam Konstantinidis¹; ¹Aristotle University of Thessaloniki, Thessaloniki, Greece;

Paper Id: 305 [\[Abstract\]](#)

15:15: [GeomechanicsWedPM108] OS Keynote

Recent Advances in Granular Materials: Experiment & Theory

Joshua Dijkman¹; ¹Wageningen U., Wageningen, Netherlands;

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

15:40 Break

SESSION: GeomechanicsWedPM2-R9 Wed. 30 Nov. 2022 / Room: Similan 2	2nd Intl Symp on Geomechanics & Applications for Sustainable Development
<u>Session Chairs:</u> Spyros Pavlidis ; S.K. Kourkoulis ; <u>Session Monitor:</u> TBA	

15:55: [GeomechanicsWedPM209] OS Keynote

Applying concepts of “Non-Extensive Statistical Physics” for the detection of pre-failure indicators

S.K. Kourkoulis¹; ¹National Technical University of Athens, Athens, Greece;

Paper Id: 306 [\[Abstract\]](#)

16:20: [GeomechanicsWedPM210] OL

The Aegean through time. Poetic, Mythological and Geoscientific Approach

Spyros Pavlides¹; ¹, Thessaloniki, Greece;

Paper Id: 505 [\[Abstract\]](#)

16:45: [GeomechanicsWedPM211] OS Plenary

Applications of a microstructured brittle damage model to fracking

Anna Pandolfi¹; ¹Civil and Environmental Engineering Department, Politecnico di Milano, Milan, Italy;

Paper Id: 303 [\[Abstract\]](#)

19:00 Dinner

Posters

SESSION: Solid State Chemistry Poster		Alario-Franco international Symposium (2nd Intl Symp on Solid State Chemistry for Applications & Sustainable Development)
Poster Session		Room: Foyer 28-30 Nov, 2022

[SolidStateChemistryPoster1] **TRIPLE TEMPERATURE READ-OUT LUMINESCENCE THERMOMETRY at CRYOGENIC TEMPERATURES USING Cr³⁺-ACTIVATED Mg₂SiO₄**

Zeljka. Antic ¹; Milica. Sekulić ¹; Mina. Medic ²; Sanja. Kuzman ²; Zoran. Ristic ²; Mikhail G.. Brik ³; Miroslav. Dramicanin ²; ¹Vinca Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia and Montenegro; ²University of Belgrade, Vinca Institute of Nuclear Sciences, Belgrade, Serbia and Montenegro; ³Institute of Physics, University of Tartu, Tartu 50411, Estonia;

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

[SolidStateChemistryPoster2] **Synthesis, Structure and Luminescence Properties of Mn(IV) Doped Li₄Ti₅O₁₂ Phosphor**

Milica. Sekulić ¹; Vesna. Djordjevic ²; Mina. Medic ²; Zoran. Ristic ²; Miroslav. Dramicanin ²; ¹Vinca Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia and Montenegro; ²University of Belgrade, Vinca Institute of Nuclear Sciences, Belgrade, Serbia and Montenegro;

Paper Id: 72 [\[Abstract\]](#)

[SolidStateChemistryPoster3] **Structure and mechanical properties of 2.5Y_{0.5}RSZ solid solution crystals**

M.a.. Borik ¹; A.s.. Chislov ¹; Alexey. Kulebyakin ¹; E.e.. Lomonova ¹; F.o.. Milovich ²; V.a.. Myzina ¹; P.a.. Ryabochkina ³; N.v.. Sidorova ³; N.yu..

Tabachkova ¹; ¹Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russian Federation; ²National University of Science and Technology «MISIS», Moscow, Russian Federation; ³Ogarev Mordovia State University, Saransk, Russian Federation;

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

[SolidStateChemistryPoster4] **Electrochemical dealloying of ferromanganese in molten chloride mixtures**

Danil. Rozhentsev ¹; Nickolay. Tkachev ²; ¹Institute of High-Temperature Electrochemistry, Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russian Federation; ²Institute of High-Temperature Electrochemistry RAS, Ekaterinburg, Russian Federation;

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

Horstemeyer International Symposium (7th Intl. symp. on Multiscale Material Mechanics & Sustainable Applications)	
SESSION:MultiscalePoster	
Room: Foyer	
Poster Session	28-30 Nov, 2022

[MultiscalePoster1] **Fracture Properties of Bio-inspired Fibrous Materials with Hierarchical Structure**

Seyyed Ahmad. Hosseini ¹; Michael. Zaiser ²; ¹University of Erlangen-Nuremberg, Nürnberg, Germany; ²Friedrich-Alexander U. Erlangen, Nuremberg, Germany;
Paper Id: 350 [\[Abstract\]](#)

Kipouros International Symposium (8th Intl. Symp. on Sustainable Molten Salt, Ionic & Glass-forming Liquids & Powdered Materials)	
SESSION:MoltenPoster	
Room: Foyer	
Poster Session	28-30 Nov, 2022

[MoltenPoster1] **ELECTRICAL CONDUCTIVITY of ZrCl₄ and HfCl₄ SOLUTIONS in MOLTEN KCl**

Alexander. Salyulev ¹; Alexei. Potapov ¹; ¹Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;
Paper Id: 40 [\[Abstract\]](#)

[MoltenPoster2] **ELECTRICAL CONDUCTIVITY of MOLTEN SnCl₂ at TEMPERATURES up to 1314 K**

Alexei. Potapov ¹; Alexander. Salyulev ¹; ¹Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;
Paper Id: 41 [\[Abstract\]](#)

[MoltenPoster3] **ELECTRICAL CONDUCTIVITY of MOLTEN (LiCl-KCl)_{eut.} - SrCl₂ MIXTURES**

Alexander. Salyulev ¹; Alexei. Potapov ¹; ¹Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;
Paper Id: 42 [\[Abstract\]](#)

[MoltenPoster4] **Nanoscale Tungsten Carbides Prepared by Electrochemical Synthesis in Molten Salts**

Sergei. Kuleshov ¹; ¹Institute of General and Inorganic Chemistry, Kiev, Ukraine;
Paper Id: 76 [\[Abstract\]](#)

[MoltenPoster5] **Calculation of Ion-induced Dipole Contribution to the Thermodynamics of Molten Alkali Halides**

Alexander. Davydov ¹; Nickolay. Tkachev ²; ¹The Institute of High Temperature Electrochemistry of the Ural Branch of the Russian Academy of Sciences, Yekaterinburg, Russian Federation; ²Institute of High-Temperature Electrochemistry RAS, Ekaterinburg, Russian Federation;
Paper Id: 145 [\[Abstract\]](#)

[MoltenPoster6] **Electrochemical Dealloying of Ag – Zn Alloys in Eutectic Alkali Chlorides Melts**

Nina. Kulik ¹; Nickolay. Shurov ¹; Nickolay. Tkachev ²; ¹Institute of High Temperature Electrochemistry of the Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russian Federation; ²Institute of High-Temperature Electrochemistry RAS, Ekaterinburg, Russian Federation;

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

[MoltenPoster7] **SELECTIVE EVAPORATION of MULTICOMPONENT MOLTEN MIXTURES BASED on LiCl-KCl EUTECTIC**

Alexander. Salyulev ¹; Alexei. Potapov ¹; Nikolay. Moskalenko ¹; Vladimir. Shishkin ¹; ¹Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;

Paper Id: 234 [\[Abstract\]](#)

[MoltenPoster8] **Electrochemical Reduction of Lithium Carbonate in Chloride Melts in Different Gaseous Media**

Inessa. Novoselova ¹; Sergei. Kuleshov ²; Anatoliy. Omel'chuk ³; ¹V.I. Vernadskii Institute of General and Inorganic Chemistry, National Academy of Sciences of Ukraine, Kyiv, Ukraine; ²Institute of General and Inorganic Chemistry, Kiev, Ukraine; ³Ukrainian National Academy of Sciences V.I. Vernadsky Institute of General & Inorganic Chemistry, Kyiv-142, Ukraine;

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

[MoltenPoster9] **Physico – chemical properties of (MgF₂ – CaF₂ – (LiF))eut – MgO system as a molten electrolyte for solar thermal Mg electrowinning; thermodynamics, kinetics and diffusion**

Michal. Korenko ¹; František. Šimko ²; Carol. Larson ³; Dhiya. Krishnan ²; Jozef. Priščák ²; Robert. Palumbo ⁴; ¹Slovak Academy of Sciences, Institute of Inorganic Chemistry, Bratislava, Slovakia; ²Institute of Inorganic Chemistry, Slovak Academy of Sciences, Bratislava, Slovakia; ³Valparaiso University, Valparaiso, United States; ⁴University of Minnesota Duluth, Duluth, United States;

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

Marcus International Symposium (Intl. symp. on Solution Chemistry Sustainable Development)	
SESSION:SolutionChemistryPoster	
Room: Foyer	
Poster Session	28-30 Nov, 2022

[SolutionChemistryPoster1] **A non invasive evaluation of the moisturize content in human skin and leaves by surface tensiometry: A Comparative study**

Davide. Rossi ¹; Renata. Uruci ²; Tommaso. Rossi ³; ¹1-NGO Development Cooperation BAZH.I, Via Borgognone, 13, Maserada Sul Piave, Italy 2-Department of Pharmaceutical and Pharmacological Sciences, University of Padova, Italy, Maserada Sul Piave, Italy; ²Development Cooperation BAZH.I NGO, Maserada Sul Piave, Italy; ³Istituto Tecnico Agrario - ISS "G.B. Cerletti", Maserada Sul Piave, Italy;

Paper Id: 222 [\[Abstract\]](#)

SESSION:EnergyPoster	Mauntz International Symposium (7th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, & storage for all energy production technologies; Energy conservation)
Poster Session	Room: Foyer 28-30 Nov, 2022

[EnergyPoster1] **BIODIESEL FUEL PRODUCTION FROM NON-FOOD OIL AND FATTY WASTES USING BIOCATALYSIS**

Egle. Sendzikiene ¹; ¹Vytautas Magnus University Agriculture Academy, Kaunas, Lithuania;

Paper Id: 14 [\[Abstract\]](#)

[EnergyPoster2] **Applications of Nanotechnology in Oil and Gas Industry**

Abdollah. Esmaeili ¹; ¹Al-Farabi Kazakh National University, Almaty, Kazakhstan;

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

[EnergyPoster3] **Oil Well Cementing**

Abdollah. Esmaeili ¹; Yermek. Aubakirov ¹; Fatima. Kanapiyeva ¹; ¹Al-Farabi Kazakh National University, Almaty, Kazakhstan;

Paper Id: 20 [\[Abstract\]](#)

[EnergyPoster4] **Solar-Pumped Laser using 1 m² class of Fresnel lens and solar cavity of ABS**

Hayato. Koshiji ¹; Takumi. Shimoyama ²; Tomomasa. Ohkubo ³; Ei-ichi. Matsunaga ³; Yuji. Sato ⁴; Thanh-hung. Dinh ⁵; Jun-ichi. Yokota ⁶; ¹Tokyo University of Technology, Hachioji-shi, Tokyo, Japan; ²Tokyo University of Technology, Tokyo, Japan; ³Tokyo University of Technology, Hachioji, Japan; ⁴Joining and Welding Research Institute, Osaka University, Osaka, Japan; ⁵National Institutes for Quantum and Radiological Science and Technology, Kyoto, Japan; ⁶LAFORÉ ENGINEERING CORPORATION, Tokyo, Japan;

Paper Id: 27 [\[Abstract\]](#)

[EnergyPoster5] **Preparation of 1-D Nanowire-Based Composite Photocatalyst Thin Film to Generate Hydrogen by Harvesting Solar Energy**

Kyo-seon. Kim ¹; ¹Kangwon National University, Chuncheon City, South Korea;

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

[EnergyPoster6] **Evaluation of Energy and CO₂ Emission of Heat pumps for Electric Vehicles**

Hyun Joon. Chung ¹; Chung Ho. Lee ²; Jong Hyun. Park ²; Yu Min. Choi ²; Young In. Jung ²; Chasik. Park ²; Hoseong. Lee ³; ¹Hoseo University, Asan, South Korea; ²Hoseo University, Asan-si, South Korea; ³Korea Automotive Technology Institute, Chonan, South Korea;

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

**Mizutani International Symposium (6th Intl. Symp. on
SESSION:SISAMPoster Science of Intelligent & Sustainable Advanced Materials
(SISAM))**

Room: Foyer

Poster Session

28-30 Nov, 2022

[SISAMPoster1] Tuning PEDOT: PSS Synthesis for Enhanced Electrical Conductivity

Phimchanok. Sakunpongpitiporn ¹; Natlita. Thummarungsan ¹; Kornkanok. Rotjanasuworapong ¹; Katesara. Phasuksom ¹; Anuvat. Sirivat ¹; ¹Chulalongkorn University, Bangkok, Thailand;

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

**SESSION:GeochemistryPoster Navrotsky International Symposium (Intl. symp.
on Geochemistry for Sustainable Development)**

Room: Foyer

Poster Session

28-30 Nov, 2022

[GeochemistryPoster1] Geochemical characteristics of Korean bentonite under the elevated temperature conditions

Tae-jin. Park ¹; Donghoon. Seoung ²; Yongmoon. Lee ³; ¹Korea Atomic Energy Research Institute (KAERI), Daejeon, South Korea; ²Chonnam National University, Gwangju, South Korea; ³Pusan National University, Pusan, South Korea;

Paper Id: 246 [\[Abstract\]](#)

**SESSION:IronPoster Poveromo International Symposium (8th Intl. Symp. on
Advanced Sustainable Iron & Steel Making)**

Room: Foyer

Poster Session

28-30 Nov, 2022

[IronPoster1] PROMOTING ASSIMILATION of MAGNETITE FINE ORE with LIME STONE at SINTERING PROCESS

Masaru. Matsumura ¹; Akira. Morioka ²; Jun. Okazaki ³; ¹, Futtsu, Japan; ²Graduate student at Tohoku University, Sendai, Japan; ³NS Technology of Nipponsteel Group, Futtsu, Japan;

Paper Id: 6 [\[Abstract\]](#)

[IronPoster2] Environmental Load Reduction by Biomass Char Utilization at Iron Ore Sintering Process

Ryo. Muroi ¹; Masaru. Matsumura ²; ¹Tohoku University, Futtsu-shi, Japan; ², Futtsu, Japan;

Paper Id: 9 [\[Abstract\]](#)

[IronPoster3] Solidification of Special Steel Billets in Continuous Casting with Different Electromagnetic Stirring

Engang. Wang ¹; ¹Northeastern University, Shenyang, China;

Paper Id: 28 [\[Abstract\]](#)

**[IronPoster4] MASS TRANSFER BETWEEN SOLID AND LIQUID PHASES
RELATED TO SUSPENSION PATTERN OF LIGHT OR HEAVY DENSITY OF SOLID
PARTICLES IN A MECHANICALLY STIRRED VESSEL**

Yoshiei. Kato ¹; Md. Azhar. Uddin ¹; ¹Okayama University, Okayama, Japan;
Paper Id: 270 [\[Abstract\]](#)

SESSION:ModellingPoster	Trovalusci International Symposium (17th Intl. Symp. on Multiscale & Multiphysics Modelling of 'Complex' Material (MMCM17))
	Room: Foyer
Poster Session	28-30 Nov, 2022

[ModellingPoster1] Multi-scale modeling of anode-supported solid oxide fuel cells

Dong Hyup. Jeon ¹; ¹Dongguk University, Gyeongju, South Korea;
Paper Id: 438 [\[Abstract\]](#)

SESSION:PhysicsPoster	Virk International Symposium (Intl Symp on Physics, Technology & Interdisciplinary Research for Sustainable Development)
	Room: Foyer
Poster Session	28-30 Nov, 2022

**[PhysicsPoster1] Influence of 200 MeV Ag +16 Ions Irradiation On Structural
Property And Surface Morphology Of CoFe2O4 Ferrite Prepared Using SHS
Route**

Rajshree. Jotania ¹; Nital. Panchal ²; ¹Gujarat University, Ahmedabad, India; ²M.G.
Science college, Ahmedabad, India;
Paper Id: 251 [\[Abstract\]](#)

**[PhysicsPoster2] Dehydrated Nanoscale Marinade For Meats And Vegetables
Used As A Natural Flavor Enhancer**

Gulshan. Dhillon ¹; Mansi. Chitkara ¹; Inderjeet Singh. Sandhu ¹; Didar.
Singh ¹; ¹Chitkara University, Punjab, Patiala, India;
Paper Id: 272 [\[Abstract\]](#)

SESSION:BatteryPoster	Yazami International Symposium (7th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling)
	Room: Foyer
Poster Session	28-30 Nov, 2022

[BatteryPoster1] PILOT TEST for RECOVERING NI, CO from LIB SCRAP

Go-gi. Lee ¹; Gil Soo. Han ²; Jin Kyun. Park ²; Byong Pill. Lee ²; Nam Jin. Jae ²;
Hyong Sub. Ueom ²; Sung Koo. Jo ²; ¹Research Institute of Industrial Science and
Technology(RIST), Pohang-si, South Korea; ²Research Institute of Industrial Science
and Technology, Pohang-si, South Korea;
Paper Id: 43 [\[Abstract\]](#)

[BatteryPoster2] **Effect of proton irradiation on the performance of red phosphorus-based anode material in Li-ion and Na-ion batteries**

Aliya. Mukanova ¹; Uldana. Kydyrbayeva ²; Zhumabay. Bakenov ³; ¹Institute of Batteries, Nazarbayev University, Nur-Sultan, Kazakhstan; ²Institute of Battery, Nur-Sultan, Kazakhstan; ³Nazarbayev University, Nur-Sultan, Kazakhstan, Kazakhstan; Paper Id: 408 [\[Abstract\]](#)

[BatteryPoster3] **MXene-Based 3D-Printed Lithium-Ion Batteries**

Arailym. Nurpeissova ¹; Alisher. Kumarov ¹; Zhumabay. Bakenov ²; ¹Institute of Batteries LLC, Nur-Sultan, Kazakhstan; ²Nazarbayev University, Nur-Sultan, Kazakhstan, Kazakhstan; Paper Id: 412 [\[Abstract\]](#)

[BatteryPoster4] **SIZE EFFECTS ON TRANSPORT, THERMODYNAMICS AND ENERGY STORAGE**

Balaya. Palani ¹; ¹NATIONAL UNIVERSITY OF SINGAPORE, Singapore, Singapore; Paper Id: 464 [\[Abstract\]](#)

[BatteryPoster5] **Preparation of Battery-Grade Lithium Composites from Local Spodumene**

Adilkhan. Seipiyev ¹; Arailym. Nurpeissova ²; ¹Institute of Batteries LLC, Astana, Kazakhstan; ²Institute of Batteries LLC, Nur-Sultan, Kazakhstan; Paper Id: 465 [\[Abstract\]](#)

[BatteryPoster6] **Nitrogen-Doped Non-Graphitic Carbon from Bio-Waste as a High-Performance Anode for a Low-Temperature Lithium-Ion Battery**

Nurbolat. Issatayev ¹; Gulnur. Kalimuldina ²; Arailym. Nurpeissova ³; Zhumabay. Bakenov ⁴; ¹National Laboratory Astana, Nazarbayev University, Astana, Kazakhstan; ²School of Engineering and Digital Sciences, Nazarbayev University, Nur-Sultan, Kazakhstan, Kazakhstan; ³Institute of Batteries LLC, Nur-Sultan, Kazakhstan; ⁴Nazarbayev University, Nur-Sultan, Kazakhstan, Kazakhstan; Paper Id: 481 [\[Abstract\]](#)

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[OxidativePoster1] **Real-Time Diagnosis of Reactive Oxygen Species (ROS) in Fresh Sputum by Electrochemical Tracing; Correlation Between COVID-19 and Viral-Induced ROS in Lung/Respiratory Epithelium**

Mohammad. Abdollah ¹; ¹Nano Electronic Center of Excellence, Nano Bio Electronic Devices Lab, School of Electrical and Computer Engineering, College of Engineering, University of Tehran, P.O. Box: 14395/515, Tehran, Iran, Tehran, Iran; Paper Id: 224 [\[Abstract\]](#)

[OxidativePoster2] **A multi-antioxidant complex, Twendee X improves spatial learning ability in vitamin E-deficient mice**

Koji. Fukui ¹; Fuhua. Yang ²; Yugo. Kato ¹; Yoshiaki. Harakawa ³; Toshikazu. Yoshikawa ⁴; Haruhiko. Inufusa ⁵; ¹Shibaura Institute of Technology, Saitama, Japan; ²Division of Anaerobe Research, Lifu Science Research Center, Gifu University, Gifu-city, Japan; ³Division of Anti-oxidant Research, Gifu University, Gifu, Japan; ⁴Louis Pasteur Center, Kyoto, Japan; ⁵Division of Anti-Oxidant Research, Gifu University, Gifu, Japan;
Paper Id: 440 [\[Abstract\]](#)

SESSION:AdvancedMaterialsPoster	6th Intl. Symp. on New & Advanced Materials & Technologies for Energy, Environment, Health & Sustainable Development
Poster Session	Room: Foyer 28-30 Nov, 2022

[AdvancedMaterialsPoster1] **Atomic-Scale Influence of Grain Boundaries on Ion Conduction in Solid Electrolytes for Solid-State Batteries**

James. Dawson ¹; ¹Newcastle University, NEWCASTLE UPON TYNE, United Kingdom;
Paper Id: 13 [\[Abstract\]](#)

[AdvancedMaterialsPoster2] **Hydrogen sensing characteristics of 2-dimensional β phase Ga₂O₃ based field effect transistor for hydrogen sensor application**

Soohwan. Jang ¹; Mankyung. Kim ¹; Yukyung. Kim ¹; Kwang Hyeon. Baik ²; ¹Dankook University, Yongin-si, South Korea; ²Hongik University, Jochiwon, South Korea;
Paper Id: 60 [\[Abstract\]](#)

[AdvancedMaterialsPoster3] **Effects of Applied Voltage During Electrodialysis Using Lithium-Ion Conductor Electrolyte
 $\text{La}_{0.57}\text{Li}_{0.29}\text{TiO}_3$**

Kiyoto. Shin Mura ¹; Ryoya. Tokuyoshi ²; Ryousuke. Hiraka ³; Kazuya. Sasaki ^{4,1}; Hirosaki, Japan; ²Department of Science and Technology, Hirosaki University, Hirosaki, Japan; ³Hirosaki University, Hirosaki, Japan; ⁴Graduate School of Science and Technology, Hirosaki University, Hirosaki, Japan;
Paper Id: 66 [\[Abstract\]](#)

[AdvancedMaterialsPoster4] **Effect of Atmosphere on the Preparation of Self-oxidized Film on Zirconium Plate**

Rio. Takemura ¹; Shinya. Enomoto ²; Kazuya. Sasaki ¹; Masatoshi. Kondo ³; Eiki. Niwa ⁴; ¹Graduate School of Science and Technology, Hirosaki University, Hirosaki, Japan; ²Department of Science and Technology, Hirosaki University, Hirosaki, Japan; ³Tokyo Institute of Technology, Institute of Innovative Research, Laboratory for Advanced Nuclear Energy, Meguro, Japan; ⁴Graduate School of Engineering, Mie University, Tsu, Japan;
Paper Id: 67 [\[Abstract\]](#)

[AdvancedMaterialsPoster5] **Transfer Rate Change by Concentration of Secondary Side Solution in Electrodialysis Using Lithium-Ion-Conductive Solid Electrolyte $\text{La}_{0.57}\text{Li}_{0.29}\text{TiO}_3$**

Hiroto. Takahashi ¹; Kiyoto. Shin Mura ²; Ryoya. Tokuyoshi ³; Kazuya.

Sasaki ¹; ¹Graduate School of Science and Technology, Hirosaki University, Hirosaki, Japan; ², Hirosaki, Japan; ³Department of Science and Technology, Hirosaki University, Hirosaki, Japan;

Paper Id: 71 [\[Abstract\]](#)

[AdvancedMaterialsPoster6] **EXPLORATORY STUDY OF THE MOLLUSK SHELL LIMNOPERNA FORTUNEI - GOLDEN MUSSEL**

Hortênsia. De Oliveira Campos ¹; Paulo. Assis ²; Adriano. Batista ³; Hellen Cristine. Prata De Oliveira ¹; Jorge. Murta ⁴; ¹Universidade Federal de Ouro Preto, Ouro Preto, Brazil; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil; ³IFMG, Ouro Preto, Brazil; ⁴Federal University of Ouro Preto, Ouro Preto, Brazil;

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

[AdvancedMaterialsPoster7] **ELEKTROLYZER FOR LEACHING OF GOLD SULFIDE ORES**

Tsiana. Gagnidze ¹; Zhiul. Keadze ¹; Rusudan. Chagelishvili ¹; Ketevan. Ugrelidze ²; ¹Ivane Javakhishvili Tbilisi State University, Rafael Agladze Institute of Inorganic Chemistry and Electrochemistry, Tbilisi, Georgia; ²R.Agladze Institute of Inorganic Chemistry and Electrochemistry, Tbilisi, Georgia;

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

[AdvancedMaterialsPoster8] **CONSTITUTIVE RELATIONSHIP and KINETICS MODEL of DRX DURING THERMAL DEFORMATION of STELLITE 6B ALLOY**

Yawei. Zhang ¹; Shixiao. Zhang ¹; Xudong. Lu ²; ¹Central Iron and Steel Research Institute Group, Beijing, China; ²E-mail, Beijing, China;

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

[AdvancedMaterialsPoster9] **CHARACTERIZATION of ASBESTOS in POWDERED-COSMETIC TALC**

Krit. Won In ¹; Pisutti. Dararutana ²; ¹Kasetsart University, Bangkok 10900, Thailand; ²Retired Army Officer at the Royal Thai Army, Muang District, Thailand;

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[AdvancedMaterialsPoster10] **Physical properties of vegetable bars produced on the basis of frozen vegetables and apple pomace in the aspect of their functional properties**

Monika. Janowicz ¹; Agnieszka. Ciurzyńska ²; Andrzej. Lenart ²; Magdalena. Karwacka ³; ¹Warsaw University of Life Sciences, Warsaw, Poland; ²Warsaw University of Life Sciences - SGGW, Warsaw, Poland; ³Department of Food Engineering and Process Management, Warsaw University of Life Sciences, SGGW, Warsaw, Poland;

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

[AdvancedMaterialsPoster11] **Production Of H₂ By Photocatalytic Dissociation Of Water On Nanostructured Oxides.**

Yassine. Cherif ¹; Sihem. Benaissa ²; Amel. Boudjemaa ³; ¹Abou Bakr Belkaid University of Tlemcen, Mansourah, Algeria; ²Laboratory of Catalysis & Synthesis in Organic Chemistry, Abou Bakr Belkaid University of Tlemcen, Mansourah, Algeria; ³Centre for Scientific and Technical Research in Physical Chemical Analysis, Tipaza, Algiers, Algeria;
Paper Id: 166 [\[Abstract\]](#)

[AdvancedMaterialsPoster12] **Carbonaceous materials obtained by polymeric wastes pyrolysis used for wastewater treatment**

Cristina. Cazan ¹; Luminita. Andronic ²; ¹TRANSILVANIA UNIVERSITY OF BRASOV, Brasov, Romania; ²Transilvania University of Brasov, Brasov, Romania;
Paper Id: 197 [\[Abstract\]](#)

[AdvancedMaterialsPoster13] **High Energy Density Sodium Batteries Based on Earth-Abundant Elements**

Gabriela. Wazny ¹; Katarzyna. Walczak ¹; Wojciech. Zając ¹; Janina. Molenda ²; ¹AGH University of Science and Technology, Krakow, Poland; ²AGH University of Science and Technology, Kraków, Kraków, Poland;
Paper Id: 203 [\[Abstract\]](#)

[AdvancedMaterialsPoster14] **Preparation of mesoporous carbon material to improve CDI performance**

Song Mi. Lee ¹; Seon Ho. Lee ²; Seungjoo. Park ¹; Doo-hwan. Jung ¹; ¹Korea Institute of Energy Research, Daejeon, South Korea; ²Korea Institute of Energy Research (KIER), Daejeon, South Korea;
Paper Id: 530 [\[Abstract\]](#)

[AdvancedMaterialsPoster15] **Fabrication of CNT carbon composite by wet/dry methods bipolar plate for low temperature fuel cell**

Seon Ho. Lee ¹; Song Mi. Lee ²; Seungjoo. Park ²; Doo-hwan. Jung ²; ¹Korea Institute of Energy Research (KIER), Daejeon, South Korea; ²Korea Institute of Energy Research, Daejeon, South Korea;
Paper Id: 528 [\[Abstract\]](#)

[AdvancedMaterialsPoster16] **A study on the dominant factor affecting the mechanical properties of high-density carbon blocks among oxygen functional groups and beta resin**

Seungjoo. Park ¹; Seon Ho. Lee ²; Song Mi. Lee ¹; Doo-hwan. Jung ¹; ¹Korea Institute of Energy Research, Daejeon, South Korea; ²Korea Institute of Energy Research (KIER), Daejeon, South Korea;
Paper Id: 529 [\[Abstract\]](#)

SESSION:MineralPoster	7th Intl. Symp. on Sustainable Mineral Processing
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[MineralPoster1] **INFLUENCE of REPETITIVE HIGH-VOLTAGE NANOSECOND PULSES on TECHNOLOGICAL PROPERTIES of NATURALLY OCCURRING QUARTZ**

Igor. Bunin ¹; Maria. Ryazantseva ¹; Nataliya. Anashkina ¹; ¹Research Institute of Comprehensive Exploitation of Mineral Resources Russian Academy of Science, Moscow, Russian Federation;
Paper Id: 120 [\[Abstract\]](#)

SESSION:covid19Poster	International Symposium on COVID-19/Infectious Diseases & their implications on Sustainable Development
Poster Session	Room: Foyer 28-30 Nov, 2022

[covid19Poster1] **How to Prevent Coronavirus, SARS-CoV-2: A Brief Note**
Subhasis. Samanta ¹; Janmajoy. Banerjee ²; Ranabir. Chanda ³; ¹Binayak Multi-specialty Hospital, Sinthee, Kolkata, West Bengal, India, Kolkata, India; ²Gitanjali College of Pharmacy, Birbhum, West Bengal, Birbhum, India; ³Sana College of Pharmacy, Kodad, India;
Paper Id: 130 [\[Abstract\]](#)

SESSION:EducationPoster	3rd Intl. Symp. on Educational Strategies for Achieving a Sustainable Future
Poster Session	Room: Foyer 28-30 Nov, 2022

[EducationPoster1] **Optics and photonics for school children**
Dana. Seyringer ¹; Claudia. Franceschini ²; ¹Vorarlberg University of Applied Sciences, Dornbirn, Austria; ²Vorarlberg University of Applied Sciences, Dornbirn, Austria;
Paper Id: 32 [\[Abstract\]](#)

SESSION:GeomechanicsPoster	2nd Intl Symp on Geomechanics & Applications for Sustainable Development
Poster Session	Room: Foyer 28-30 Nov, 2022

[GeomechanicsPoster1] **TEST 3**
Baraa. Noueihed ¹; ¹Flogen Technologies, Mont-Royal, Canada;
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SESSION:MathematicsPoster

**5th Intl. Symp. on
Sustainable Mathematics Applications**

Room: Foyer

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[MathematicsPoster1] **The 2-dimensional Cerenkov effect with radiative corrections**

Miroslav. Pardy ¹; ¹Masaryk University, Faculty of science, Brno, Brno, Czech Republic;

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SESSION:MedicinePoster

**Intl. Symp. on Technological Innovations
in Medicine for Sustainable Development**

Room: Foyer

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[MedicinePoster1] **Hormone loss silencing GUCY2C at the nexus of obesity and colorectal cancer**

Scott. Waldman ¹; ¹Thomas Jefferson University, Philadelphia, United States;

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SESSION:NanomaterialsPoster

**7th Intl. Symp. on Synthesis & Properties
of Nanomaterials for Future Energy Demands**

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[NanomaterialsPoster1] **Enhancement of Photoelectrochemical Properties of BiVO₄ Layer Coated ZnO Nanodendrite Core–Shell Nanocomposites: Electronic Mechanism from Synchrotron based X-ray Spectro-Microscopic Studies**

Hsiao-tsu. Wang ¹; Hung-wei. Shiu ²; Jau-wern. Chiou ³; Takuji. Ohigashi ⁴; Kandasami. Asokan ⁵; Nobuhiro. Kosugi ⁴; Way-faung. Pong ¹; ¹Department of Physics, Tamkang University, Taiwan, New Taipei City, Taiwan; ²National Synchrotron Radiation Research Center, Hsinchu, Taiwan; ³Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan; ⁴Institute for Molecular Science, Okazaki, Japan; ⁵Inter University Accelerator Centre, New Delhi, India;

Paper Id: 54 [\[Abstract\]](#)

[NanomaterialsPoster2] **X-ray Spectroscopic Study of Atomic and Electronic Structures of Energy Materials**

Chung-li. Dong ¹; ¹Department of Physics, Tamkang University, Tamsui, Taiwan;

Paper Id: 134 [\[Abstract\]](#)

SESSION: Nonferrous Poster	8th Intl. Symp. on Sustainable Non-ferrous Smelting & Hydro/Electrochemical Processing
	Room: Foyer
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[NonferrousPoster1] **Solid Household and Industrial Waste Management Process Based on Vanukov Smelting**

Leonid. Tsybulov ¹; Mikhail. Knyazev ²; ¹Norilsk Nickel JS, Gipronickel Institute JS, Saint Petersburg, Saint Helena; ²Norilsk Nickel JS, Gipronickel Institute JS, Saint Petersburg, Russian Federation;
Paper Id: 254 [\[Abstract\]](#)

SESSION: Polymers Poster	2nd Intl Symp on Green Chemistry & Polymers & their Application for Sustainable Development
	Room: Foyer
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[PolymersPoster1] **Development of Biocompatible and Fluorescent Gelatin Nanoparticles for Cells Labeling**

Ying. Pei ¹; Ying. Pei ¹; ¹Zhengzhou University, Zhengzhou, China;
Paper Id: 152 [\[Abstract\]](#)

[PolymersPoster2] **Negative Electrostriction of Plasticized Poly(lactic acid) Filled with Multiwalled Carbon Nanotube**

Anuvat. Sirivat ¹; Natlita. Thummarungsan ¹; Katesara. Phasuksom ¹; Phimchanok. Sakunpongpitiporn ¹; Kornkanok. Rotjanasuworapong ¹; ¹Chulalongkorn University, Bangkok, Thailand;
Paper Id: 169 [\[Abstract\]](#)

[PolymersPoster3] **Different Types of Graphene Materials and Their Composites with Polyindole as Methanol Vapor Sensing Materials**

Katesara. Phasuksom ¹; Phimchanok. Sakunpongpitiporn ¹; Natlita. Thummarungsan ¹; Kornkanok. Rotjanasuworapong ¹; Anuvat. Sirivat ¹; ¹Chulalongkorn University, Bangkok, Thailand;
Paper Id: 171 [\[Abstract\]](#)

[PolymersPoster4] **Electrically Responsive Materials Based on Agarose Hydrogel for Actuator Application**

Kornkanok. Rotjanasuworapong ¹; Phimchanok. Sakunpongpitiporn ¹; Katesara. Phasuksom ¹; Natlita. Thummarungsan ¹; Anuvat. Sirivat ¹; ¹Chulalongkorn University, Bangkok, Thailand;
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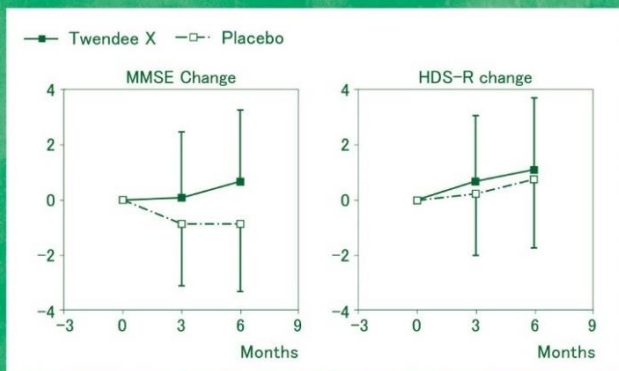
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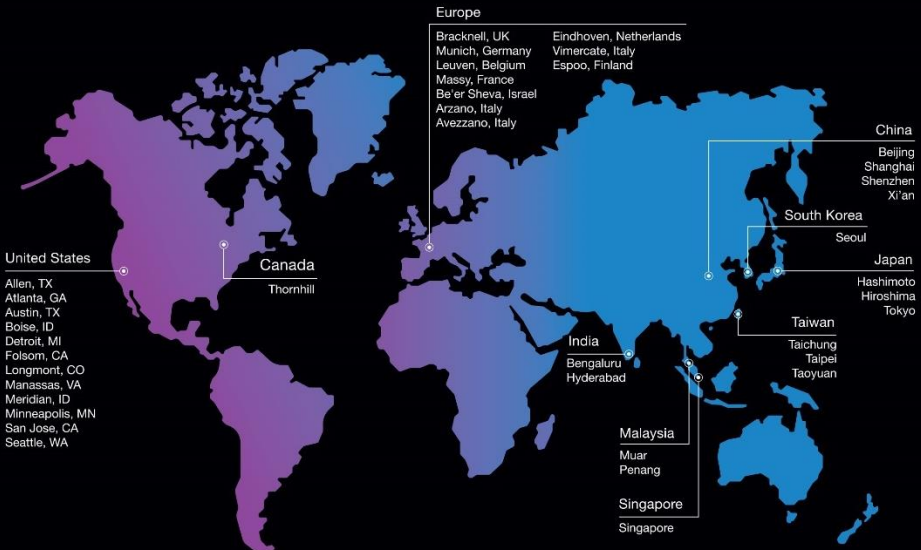
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