



SIPS 2023, In Honor of Nobel Laureate, Prof. M Stanley Whittingham

2023 SIPS

Covering Sustainability Pillars :

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

Prof. M Stanley Whittingham

Nov 27 - Dec 1, 2023, Hyatt's Dreams Playa Bonita, Panama

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PROGRAM



Featuring many Nobel Laureates:



Dan Shechtman
2011 - Chemistry



Stanley Whittingham
2019 - Chemistry



Joachim Frank
2017 - Chemistry



Barry Marshall
2005 - Medicine



Aaron Ciechanover
2004 - Chemistry



Avram Hershko
2004 - Chemistry



Kurt Wüthrich
2002 - Chemistry



Ferid Murad
1998 - Medicine



Rudy A. Marcus
1992 - Chemistry

(Passed away on the 4th of Sept. 2023)

Special Address:



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American Chemical
Society



Donna J. Nelson
2016 President
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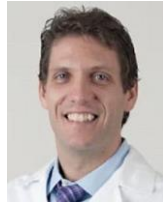
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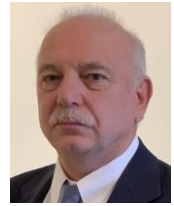
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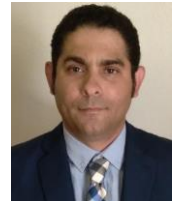
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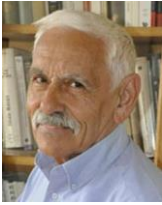
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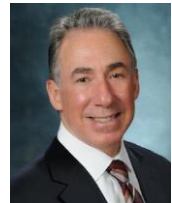
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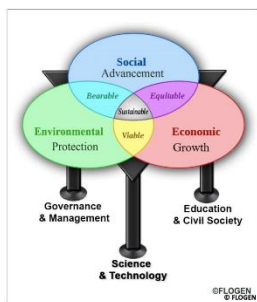
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Welcome Message

Welcome to the Sustainability through Science and Technology / Sustainable Industrial Processing Summit 2023 (SIPS 2023), 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), which is 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.



Based on the FLOGEN Sustainability Framework given in the right side 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 2023 is entirely dedicated to and bears the name of Prof. Stanley Whittingham, Nobel Laureate in Chemistry. Prof. Whittingham is a pioneer in discovering the role of Lithium in Lithium ion batteries that are very useful to conserve the energy and help one of the Sustainability issues of most recent times that one of conserving and saving energy. Lithium ion batteries has become indispensable in many fields of human life, from general Technologies, to Medicine and to 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 symposiums

[- Ozawa Intl. symposium on Oxidative Stress for Sustainable Development of Human Beings \(3rd Intl. Symp.\)](#)

[-2nd Intl. Symp. on Technological Innovations in Medicine for Sustainable Development](#)

[-2nd 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.

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

Dr. Florian Kongoli

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Prof. Alicia **Durán**



Prof. Luis
Echegoyen



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Littleton **Guerrant**



Prof. Vasant **Kumar**



Prof. Toshihiko
Ozawa



Prof. Kenneth
Poepelmeier



Prof. Alexandra
Navrotsky



Prof. Mauricio
Leonardo **Torem**

Calendar of Events

| | | | | | | | | | | | | |
|----------------------------|----------------|---|----------------|-----------------------------|---------------------------------|----------------------|-------------------|-------------------|----------------------------|-----------------|--------------------|----------------------|
| Mon. 27 Nov. 2023 | 13:00-18:00 | SUMMIT REGISTRATION - BALLROOM FOYER | | | | | | | | | | |
| | 19:00-23:00 | WELCOMING INFORMAL DINNER & ENTERTAINMENT - THE PLAZA SPACE (OUTDOOR) | | | | | | | | | | |
| | Room | Room 1 | Room 2 | Room 3 | Room 4 | Room 5 | Room 6 | Room 7 | Room 8 | Room 9 | Room 10 | Room 11 |
| | Level | Dreams 1 | Dreams 2 | Dreams 3 | Dreams 4 | Heliconia | Orchid | Sunflower | Coral Reef | Showroom | Boardroom | DiscoRoom |
| | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Reception Floor | Reception Floor | Reception Floor | Reception Floor | Basement Floor |
| Tue. 28 Nov. 2023 | 08:00-11:10 | SUMMIT PLENARY - DREAMS 1 BALLROOM | | | | | | | | | | |
| | 11:10-11:30 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| | 11:30-13:10 | Oxidative (Ozawa) 1 | Iron (Assis) 1 | Nanomaterials (Echegoyen) 1 | SolidStateChem (Poeppelmeier) 1 | Advanced Materials 1 | Battery (Kumar) 1 | Carbon 1 | Geochemistry (Navrotsky) 1 | Mathematics 1 | Glass (Durán) 1 | Energy 1 |
| | 13:10-14:00 | LUNCH/POSTERS/EXHIBITION | | | | | | | | | | |
| | 14:00-15:40 | Oxidative (Ozawa) 2 | Iron (Assis) 2 | Nanomaterials (Echegoyen) 2 | SolidStateChem (Poeppelmeier) 2 | Advanced Materials 2 | Battery (Kumar) 2 | Recycling 1 | Geochemistry (Navrotsky) 2 | Physics 1 | Glass (Durán) 2 | Energy 2 |
| | 15:40-15:55 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| | 15:55-17:35 | Oxidative (Ozawa) 3 | Iron (Assis) 3 | Nanomaterials (Echegoyen) 3 | SolidStateChem (Poeppelmeier) 3 | Advanced Materials 3 | Battery (Kumar) 3 | Biochar_Cement 1 | Geochemistry (Navrotsky) 3 | Mathematics 2 | Glass (Durán) 3 | Energy 3 |
| | 17:35-17:50 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| | 17:50-18:40 | Oxidative (Ozawa) 4 | Iron (Assis) 4 | Nanomaterials (Echegoyen) 4 | SolidStateChem (Poeppelmeier) 4 | Advanced Materials 4 | Battery (Kumar) 4 | ROUND TABLE | Geochemistry (Navrotsky) 4 | Mathematics 3 | Glass (Durán) 4 | Energy 4 |
| | 19:00-23:00 | THEME BUFFET DINNER & SHOW - SAND COURT (OUTDOOR) | | | | | | | | | | |
| Wed. 29 Nov. 2023 | 08:00-11:10 | SUMMIT PLENARY - DREAMS 1 BALLROOM | | | | | | | | | | |
| | 11:10-11:30 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| | 11:30-13:10 | Oxidative (Ozawa) 5 | Iron (Assis) 5 | Nanomaterials (Echegoyen) 5 | SolidStateChem (Poeppelmeier) 5 | Advanced Materials 5 | Laws (Carter) 1 | Mineral (Torem) 1 | Geochemistry (Navrotsky) 5 | Physics 2 | Glass (Durán) 5 | covid19 (Guerrant) 1 |
| | 13:10-14:00 | LUNCH/POSTERS/EXHIBITION | | | | | | | | | | |
| | 14:00-15:40 | Medicine 1 | Iron (Assis) 6 | Nanomaterials (Echegoyen) 6 | SolidStateChem (Poeppelmeier) 6 | Advanced Materials 6 | Laws (Carter) 2 | Mineral (Torem) 2 | Geochemistry (Navrotsky) 6 | Mathematics 4 | Electrochemistry 1 | covid19 (Guerrant) 2 |
| | 15:40-15:55 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |

| | | | | | | | | | | | | |
|-------------------|-------------|--|-----------------|------------------------------|----------------------------------|-----------------------|-------------------|-------------------|----------------------------|---------------|-------------|----------------------|
| | 15:55-17:35 | Medicine 2 | Iron (Assis) 7 | Nanomaterials (Echegoyen) 7 | SolidStateChem (Poeppelmeier) 7 | Advanced Materials 7 | Laws (Carter) 3 | Mineral (Torem) 3 | Geochemistry (Navrotsky) 7 | Mathematics 5 | Corrosion 1 | covid19 (Guerrant) 3 |
| | 17:35-17:50 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| | 17:50-18:40 | Oxidative (Ozawa) 6 | Iron (Assis) 8 | Nanomaterials (Echegoyen) 8 | SolidStateChem (Poeppelmeier) 8 | Advanced Materials 8 | ROUND TABLE | Mineral (Torem) 4 | ROUND TABLE | Mathematics 6 | Corrosion 2 | ROUND TABLE |
| | 19:00-23:00 | GALA DINNER/AWARDS CEREMONY/SHOW - DREAMS 1 BALLROOM | | | | | | | | | | |
| | 08:00-11:10 | SUMMIT PLENARY - DREAMS 1 BALLROOM | | | | | | | | | | |
| | 11:10-11:30 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| Thu. 30 Nov. 2023 | 11:30-13:10 | Oxidative (Ozawa) 7 | Iron (Assis) 9 | Nanomaterials (Echegoyen) 9 | SolidStateChem (Poeppelmeier) 9 | Advanced Materials 9 | Battery (Kumar) 5 | Mineral (Torem) 5 | ROUND TABLE | Mathematics 7 | ROUND TABLE | ROUND TABLE |
| | 13:10-14:00 | LUNCH/POSTERS/EXHIBITION | | | | | | | | | | |
| | 14:00-19:00 | PANAMA CANAL SCIENCE TOUR | | | | | | | | | | |
| | | FREE EVENING WITH INDIVIDUAL DINNERS AT THE HOTEL | | | | | | | | | | |
| Fri. 1 Dec. 2023 | 08:15-09:55 | Medicine 3 | Iron (Assis) 10 | Nanomaterials (Echegoyen) 10 | SolidStateChem (Poeppelmeier) 10 | Advanced Materials 10 | ROUND TABLE | Mineral (Torem) 6 | ROUND TABLE | Physics 3 | ROUND TABLE | ROUND TABLE |
| | 09:55-10:20 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| | 10:20-12:00 | ROUND TABLE | Iron (Assis) 11 | Nanomaterials (Echegoyen) 11 | ROUND TABLE | Advanced Materials 11 | ROUND TABLE | Mineral (Torem) 7 | ROUND TABLE | Physics 4 | ROUND TABLE | ROUND TABLE |
| | 12:00-13:00 | LUNCH/POSTERS/EXHIBITION | | | | | | | | | | |
| | 13:00-14:40 | ROUND TABLE | Iron (Assis) 12 | Nanomaterials (Echegoyen) 12 | ROUND TABLE | Advanced Materials 12 | ROUND TABLE | ROUND TABLE | ROUND TABLE | ROUND TABLE | ROUND TABLE | ROUND TABLE |
| | 14:40-15:10 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| | 15:10-16:50 | ROUND TABLE | ROUND TABLE | Nanomaterials (Echegoyen) 13 | ROUND TABLE | Advanced Materials 13 | ROUND TABLE | ROUND TABLE | ROUND TABLE | ROUND TABLE | ROUND TABLE | ROUND TABLE |
| | 16:50-17:20 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| | 17:20-18:10 | ROUND TABLE | ROUND TABLE | Nanomaterials (Echegoyen) 14 | ROUND TABLE | ROUND TABLE | ROUND TABLE | ROUND TABLE | ROUND TABLE | ROUND TABLE | ROUND TABLE | ROUND TABLE |
| | | FREE EVENING WITH INDIVIDUAL DINNERS AT THE HOTEL | | | | | | | | | | |

Tuesday Schedule

| Symposium | Oxidative (Ozawa) | Iron (Assis) | Nanomaterials (Echegoyen) | SolidStateChemistry (Poepfelmeier) | AdvancedMaterials | Battery (Kumar) | Carbon | Geochemistry (Navrotsky) | Mathematics | Glass (Durán) | Energy | |
|----------------------------|-------------------|--|---------------------------------------|------------------------------------|--------------------------------|--------------------------------|----------------------------|---------------------------------|------------------------------------|-----------------------------|-------------------------------|----------------------------|
| | Room 1 | Room 2 | Room 3 | Room 4 | Room 5 | Room 6 | Recycling | | Room 7 | Room 9 | Room 10 | Room 11 |
| | | | | | | | Biochar_Cement | | | | | |
| Room | Dreams 1 | Dreams 2 | Dreams 3 | Dreams 4 | Heliconia | Orchid | Sunflower | Coral Reef | Showroom | Boardroom | DiscoRoom | |
| Level | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Reception Floor | Reception Floor | Reception Floor | Reception Floor | Basement Floor | |
| Tue. 28 Nov. 2023 | 08:00 | SUMMIT PLENARY - DREAMS 1 BALLROOM | | | | | | | | | | |
| | 11:10 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| | 11:30 | 152 H. Inufusa OS-P | 464 P. Assis OS-P | 463 L. Echegoyen OS-P | 343 K. Poepfelmeier OS-P | 339 F. Marquis OS-P | 39 V. Kumar OS-P | 112 G. Hanke OS-P | 58 A. Navrotsky OS-P | 263 R. Santilli OS-P | 186 A. Duran OS-P | 170 M. Mauntz OS-K |
| | 11:55 | 466 F. Kongoli OS-P | 126 T. Usui OS-K | 25 F. Wudl OS-P | 72 S. Halasyamani OS | 65 D. Kanzler OS-K | 40 V. Kumar OS | 360 D. Scheiblehner OS | 248 M. Rane-Fondacaro OS-K | 265 R. Santilli OS | 493 A. Duran OS | 506 W. Guerra OS-K |
| | 12:20 | 106 F. Yang OS | 20 M. De Campos OS-K | 445 F. Wudl OS-P | 95 M. Alario Franco OS | 323 M. Gradzka-Dahlke OS | 108 K. Chung OS-I | 361 D. Neuschitzer OS | 282 M. Rane-Fondacaro OS-K | 369 A. Muktibodh OL | 212 E. Muijsenberg OS-P | 175 A. Oleinick OS-K |
| | 12:45 | 154 K. Fukui OS | 115 G. Araujo Gois OS-K | 41 V. Krishna OS | 276 W. Huang OL | 416 T. Prikhna OS | 135 A. Lahiri OS-I | 362 S. Wibner OS | 31 M. Bustamante OS | 452 R. Kohale OL-I | 496 E. Muijsenberg OS | 73 H. Dodds OS-K |
| | 13:10 | LUNCH/POSTERS/EXHIBITION | | | | | | | | | | |
| | 14:00 | 177 C. Amatore OS-P | 216 R. Medeiros OS-K | 120 M. Brzezińska OS | 183 K. Ok OS | 295 J. Lipkowski OS-K | 117 A. Fox OS | 368 J. Antrekowitsch OS-P | 52 M. Householder OS | 356 P. Rowlands OS-P | 89 J. Parker OS-P | 321 A. Faaij OL-P |
| | 14:25 | 107 F. Yang OS | 502 F. Kongoli OS-P | 23 E. Bekyarova OS | 91 S. Pan OS | 3 S. Khanna OS | 344 A. Henni OS | 498 F. Kongoli OS-P | 98 Z. Liu OS-K | 45 M. Hirota OS | 13 B. Cazes OS | 101 S. Atnaw OS |
| | 14:50 | 153 K. Fukui OS | 358 N. Balzana Anacleto OS-K | 22 J. Barrio Hermida OS | 382 L. Chen OS | 242 R. Nikolova OS | 109 S. Kim OS | 209 S. Yefremova OS | 237 H. Seifert OS | 275 L. Rosati OL | 273 A. Caglayan OS | 35 A. Esmaili OL-K |
| | 15:15 | 151 H. Inufusa OS | 424 T. Usui OS | 16 Y. Wang OS | Round Table | 213 A. Diegeler OS-K | 194 M. Sonmez OS | 93 C. Gaidau OS | 458 C. Drouet OL | 124 S. Singh OS | 418 S. Hakes OS | 38 L. Garzon OL-K |
| | 15:40 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| | 15:55 | 181 C. Amatore OS-P | 338 P. Assis OS | 12 D. Guldi OS | 259 M. Hayward OS | 401 W. Zatar OS-I | 397 C. Capiglia OS-K | 383 M. Giorcelli OS | 402 L. Dobrzhinetskaya OS | 118 M. Mikalajunas OS | 48 S. Whettingsteel OS | 33 A. Esmaili OL |

| | | | | | | | | | | | |
|-------|---|-----------------------------|--|-----------------------------|---------------------------|----------------------------------|-----------------------------------|--------------------------|-----------------------------|------------------------------|------------------------------------|
| 16:20 | 121 S. Hirano OL-P | 116 G. Araujo Gois OS | 55 K. Azizi OS | 74 H. Kageyama OS | 391 M. De Campos OS | 354 G. Amaratunga OS | 225 A. Ivanič OS | 319 Q. Hong OS | 487 M. Mikalajunas OS | 363 U. Jokhu-Sowell OS | 34 A. Esmaeili OL |
| 16:45 | 104 Y. Harakawa OL | 231 G. Salierno OS | 27 S. De Feyter OS | 512 M. Azuma OS | 189 M. De Campos OS | 234 H. Kim OS | 455 L. Marin De Block OS | 327 F. Trolard OS | 488 M. Mikalajunas OS | 470 D. Lago OL | 140 R. Simões Angélica OS |
| 17:10 | 129 S. Hirano OL | 60 D. Coura OS | 187 F. Fernandez- Lazaro OS-I | 258 H. Yu OL | 168 Z. Chen OS-K | 393 S. Krishnamurthy OS | 467 H. Kua OL | 14 S. Ushakov OS | 489 M. Mikalajunas OS | 309 R. Budakoğlu OS | 36 A. Esmaeili OL |
| 17:35 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| 17:50 | 105 Y. Harakawa OL | 289 J. Tavares OS | 396 M. Ceron OS | 337 Y. Grin OS | 188 M. De Campos OS | 100 H. Kim OS | Round Table | 217 Z. Liu OS-P | 490 M. Mikalajunas OS | 113 A. Diegeler OS | 299 P. Sharma OS |
| 18:15 | 444 Y. Long OL | 137 K. Miura OS | 21 J. Zhang OS | 260 R. Dronskowski OS | 166 A. Yu OS | 448 W. Li OL | Round Table | 486 E. De Guire OL | 491 M. Mikalajunas OS | 296 J. Schunck OL | 37 L. Garzon OL |
| 19:00 | THEME BUFFET DINNER & SHOW - SAND COURT (OUTDOOR) | | | | | | | | | | |

Wednesday Schedule

| Symposium | Oxidative (Ozawa) | Iron (Assis) | Nanomaterials (Echegoyen) | SolidStateChemistry (Poepelmeier) | AdvancedMaterials | Laws (Carter) | Mineral (Torem) | Geochemistry (Navrotsky) | Physics | Glass (Durán) | covid19 (Guerrant) | |
|-----------|--|------------------------------|---------------------------------------|---------------------------------------|-----------------------------|-----------------------------|--|---------------------------|-----------------------------|-----------------------------|--------------------------------|------------------------------|
| | Medicine | | | | | | | | Mathematics | Electrochemistry | Corrosion | |
| Room | Room 1 | Room 2 | Room 3 | Room 4 | Room 5 | Room 6 | Room 7 | Room 8 | Room 9 | Room 10 | Room 11 | |
| Level | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Reception Floor | Reception Floor | Reception Floor | Reception Floor | Basement Floor | |
| | 08:00 SUMMIT PLENARY - DREAMS 1 BALLROOM | | | | | | | | | | | |
| | 11:10 COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | | |
| | 11:30 | 345 E. Trushina OS-P | 307 M. Cota Fonseca OS | 47 A. Rodriguez- Fortea OS-I | 261 A. Norquist OS | 279 P. Collignon OS-K | 461 H. Carter OS-P | 30 M. Torem OS | 456 W. Sun OS | 245 M. Burgos OL | 15 D. Brauer OL | 205 R. Guerrant OL-P |
| | 11:55 | 139 A. Matin OL-P | 306 A. Uliana OS | 28 J. Poblet OS | 169 I. Spanopoulos OS | 334 K. Vasudevan OS | 420 M. McNeil OS-P | 507 W. Guerra OS-K | 257 C. Pearce OL | 407 F. Fernandes OL | 453 V. Kapur OL | 233 W. Petri Jr OL |
| | 12:20 | 450 N. Tavernarakis OL | 51 N. Balzana Anacleto OS | 44 T. Torres OS-I | 262 R. Gautier OS | 158 S. Jose OL | 351 S. Berger OS-P | 472 F. Gomes OS-K | 312 M. Budakoğlu OL | 408 F. Fernandes OL | 373 N. Schreuder OS-K | 206 P. Sinha OL |
| | 12:45 | 218 J. Andersen OS | 340 N. Nath OL-P | 11 A. Sastre- Santos OS-I | 291 F. Takeiri OS | 415 T. Serbenyuk OS | Round Table | 473 F. Gomes OS-K | 123 S. Kuzovchikov OS | 409 F. Fernandes OL | 329 P. Simurka OS | 353 V. Wiwanitkit OS-I |
| | 13:10 LUNCH/POSTERS/EXHIBITION | | | | | | | | | | | |
| | 14:00 | 63 H. Leuenberger OS-P | 56 M. Ribeiro OS | 46 D. Rodriguez OS-I | 80 A. Tressaud OL | 270 M. De Campos OS | 460 H. Carter OS-K | 292 M. De Campos OS | 303 A. Namayandeh OS | 220 S. Georgiev OS-K | 174 A. Oleinck OS-P | 244 R. Scharf OL |
| | 14:25 | 125 G. Knipp OS-K | 50 N. Balzana Anacleto OS | 61 V. Vullev OS | 150 M. Azuma OS | 284 M. Kussmann OL-K | 406 F. Kongoli OS-P | 499 F. Gomes OS-K | 196 D. Feng OS | 221 S. Georgiev OS-K | 235 A. Seifitokaldani OL | 255 S. Heysell OL |
| | 14:50 | 277 R. Seger OS | 19 M. De Campos OS | 341 F. Marquis OS | 193 H. Lu OS | 230 G. Vayssilov OS | 352 S. Berger OS-K | 71 J. De Castro OS | 272 G. Costa OS | 224 S. Johansen OS-K | 336 K. Sood OS | 250 H. Khalili OS-P |
| | 15:15 | 278 A. Azab OS | 29 W. Ferreira Santos Jr. OS | 8 Y. Matsuo OS | 190 H. Kageyama OS | 240 O. Adiguzel OL-I | 495 W. Ferreira Santos Jr. OS | 310 D. Govender OL | 53 S. Hayun OS | 246 S. Schmauder OS-K | Round Table | 251 H. Khalili OS-K |
| | 15:40 COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | | |

Wed.
29
Nov.
2023

| | | | | | | | | | | | |
|-------|--|---|---------------------------|------------------------------|-------------------------------------|---------------------------|--|-----------------------|-----------------------------|-----------------------------------|---------------------------------------|
| 15:55 | 333 H. Leuenberger OS-K | 298 D. Santos OS | 18 F. D'Souza OS-I | 381 K. Griffith OS | 254 M. Motahari- Nezhad OL | 459 H. Carter OS-K | 316 R. Leal-Arcas OS | 97 M. Lang OS | 304 G. Chirume OS | 83 R. Singh OS | 315 R. Ramasamy OS |
| 16:20 | 425 B. Lucke-Wold OL | 69 J. De Castro OS | 388 E. Palomares OS | 346 P. Salvador OS | 359 C. Frayret OL-K | 398 B. Romagnolo OS | 400 H. Kota OS | 122 A. Khvan OS | 75 A. Rajendran OS | 127 D. Macdonald OL | 286 A. Trajkovska- Broach OS |
| 16:45 | 281 D. Zalli OL-K | 404 O. Ostrovski OS-K | 103 J. Berrocal OS | 462 B. Melot OL | 375 T. Prikhna OS | 314 A. Antonioli OS | 227 H. Gamboa- Baez OS | Round Table | 387 J. Cruz Guzman OS | 128 D. Macdonald OL | Round Table |
| 17:10 | 439 M. Faran Ashraf Baig OL | 494 G. Pessoa Do Império Borges OS | 49 I. Weinstock OS | Round Table | 331 Y. Goswami OS-K | 204 E. Pana OL | 185 M. Rodriguez- Lopez OS | Round Table | Round Table | 228 N. Valizade OS | Round Table |
| 17:35 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| 17:50 | 447 K. Hu OL | 385 A. Zharmenov OS | 32 N. Alvarez OS | 197 A. Demourgues OS-K | 374 T. Prikhna OS | Round Table | 497 A. Zharmenov OS | Round Table | 377 A. Yu OS | 138 Y. Li OS | Round Table |
| 18:15 | 222 J. Shen OS | 208 B. Welch OL-K | 67 M. Noufal OS | 290 J. Hübner OS-I | 403 A. Yu OS | Round Table | 238 A. Trajkovska Petkoska OS-K | Round Table | 449 A. Yu OS | 322 S. Brandyopadhyay OL | Round Table |
| 19:00 | GALA DINNER/AWARDS CEREMONY/SHOW - DREAMS 1 BALLROOM | | | | | | | | | | |

Thursday Schedule

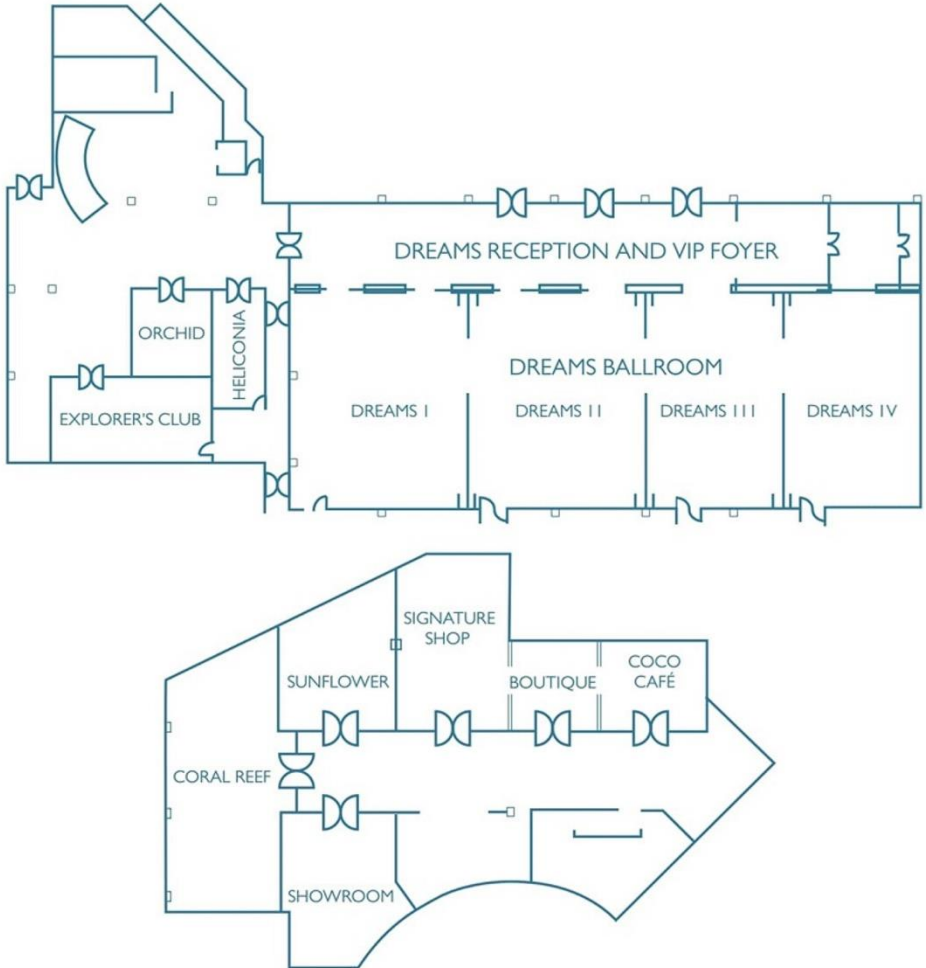
| Symposium | Oxidative (Ozawa) | Iron (Assis) | Nanomaterials (Echegoyen) | SolidStateChemistry (Poepelmeier) | AdvancedMaterials | Battery (Kumar) | Mineral (Torem) | | Mathematics | | | |
|----------------------------|---------------------------|---|---------------------------|-----------------------------------|----------------------------|---------------------------------------|---------------------------|-----------------------------------|-----------------|-------------------------------------|----------------|-------------|
| Room | Room 1 | Room 2 | Room 3 | Room 4 | Room 5 | Room 6 | Room 7 | Room 8 | Room 9 | Room 10 | Room 11 | |
| Level | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Reception Floor | Reception Floor | Reception Floor | Reception Floor | Basement Floor | |
| | 08:00 | SUMMIT PLENARY - DREAMS 1 BALLROOM | | | | | | | | | | |
| | 11:10 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| Thu. 30 Nov. 2023 | 11:30 | 157 R. Reiter OS-K | 76 J. Poveromo OS-K | 96 M. Alario Franco OS | 288 K. Mali OS | 165 A. Buling OS-K | 492 P. Aravind OS-P | 198 P. Kervalishvili OS | Round Table | 376 S. Beghella Bartoli OL | Round Table | Round Table |
| | 11:55 | 148 R. Reiter OS-K | 68 J. De Castro OS | 7 M. Hersam OS | 320 R. Freccero OS-I | 239 A. Trajkovska- Broach OS | 386 A. Kamali OS | 199 P. Kervalishvili OS | Round Table | 378 S. Beghella Bartoli OL | Round Table | Round Table |
| | 12:20 | 4 M. Narayan OS | 313 D. Oliveira OS | 54 A. Narita OS | 347 F. Marquis OS | 203 J. Milewski OL | Round Table | 399 I. Hussain OS | Round Table | 384 T. Vougiouklis OL | Round Table | Round Table |
| | 12:45 | 210 V. Kostyuk OS | 70 J. De Castro OS | 423 X. Ribas OS | 269 V. Egorov OS-I | 285 A. Trajkovska- Broach OS | Round Table | 335 A. David Nvenache OS | Round Table | 443 E. Trel OL-K | Round Table | Round Table |
| | 13:10 | LUNCH/POSTERS/EXHIBITION | | | | | | | | | | |
| 14:00 | PANAMA CANAL SCIENCE TOUR | | | | | | | | | | | |
| | | FREE EVENING WITH INDIVIDUAL DINNERS AT THE HOTEL | | | | | | | | | | |

Friday Schedule

| Symposium | Medicine | Iron (Assis) | Nanomaterials (Echegoyen) | SolidStateChemistry (Poepelmeier) | AdvancedMaterials | | Mineral (Torem) | | Physics | | | |
|------------------------|--------------------|--|---------------------------|-----------------------------------|---|----------------------------|---------------------|----------------------------------|--------------------|---------------------------|----------------------|-------------|
| Room | Room 1 Dreams 1 | Room 2 Dreams 2 | Room 3 Dreams 3 | Room 4 Dreams 4 | Room 5 Heliconia | Room 6 Orchid | Room 7 Sunflower | Room 8 Coral Reef | Room 9 Showroom | Room 10 Boardroom | Room 11 DiscoRoom | |
| Level | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Basement Floor | Reception Floor | Reception Floor | Reception Floor | Reception Floor | Basement Floor | |
| Fri. 1 Dec. 2023 | 08:15 | 223 O. Letychevskiy OS | 469 A. Shukla OS | 232 O. Crisan OS | 427 G. Cao OS-K | 207 E. Suhir OS-K | Round Table | 133 F. Zeballos OS | Round Table | 394 K. Carva OS | Round Table | Round Table |
| | 08:40 | 215 A. Ndifontaiyong OL | 162 B. Deo OS-K | 6 R. Paolesse OS | 268 V. Egorov OS | 274 G. Coors OS-K | Round Table | 267 H. Kurama OS-K | Round Table | 163 A. Yadav OS | Round Table | Round Table |
| | 09:05 | Round Table | 201 B. Peters OS-K | 78 A. Tressaud OL | 410 K. Ivanovskikh OS | 26 S. Thomas OS | Round Table | 136 A. A. OS | Round Table | 146 H. Salem OS | Round Table | Round Table |
| | 09:30 | Round Table | 229 Y. Nakama OS-K | 62 J. Montenegro OS | Round Table | 308 A. Lobnik OS-K | Round Table | 421 B. Mbiye Kalumbu OS | Round Table | 155 D. Pal Singh OS | Round Table | Round Table |
| | 09:55 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| | 10:20 | Round Table | 364 A. Pelli OL | 293 M. De Campos OS | Round Table | 365 A. Yu OS | Round Table | 17 B. Tadesse OS | Round Table | 149 S. Woo OS | Round Table | Round Table |
| | 10:45 | Round Table | 219 A. Misra OS-P | 454 P. Penketh OL | Round Table | 236 M. Zaidi OS-K | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table |
| | 11:10 | Round Table | 10 A. Dmitriev OL | 42 J. Casado OS | Round Table | 264 R. Bhosale OS-I | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table |
| | 11:35 | Round Table | 24 A. Dmitriev OL | 326 S. Dhall OS | Round Table | 184 N. Chikhradze OS | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table |
| | 12:00 | LUNCH/POSTERS/EXHIBITION | | | | | | | | | | |
| 13:00 | Round Table | 90 V. Tsepelev OL | 77 J. Delgado OS-K | Round Table | 328 D. Santos De Alencar Junior OS | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | |
| 13:25 | Round Table | 256 D. Mitra OS | 167 R. Neumann OS | Round Table | 332 Y. Goswami OS | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | |

| | | | | | | | | | | | |
|-------|---|---------------------------------------|-------------------------|-------------|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 13:50 | Round Table | 294 D. Tomé Kannoa Vieira OS | 99 P. Farras OS | Round Table | 247 R. Rajapakse OS-K | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table |
| 14:15 | Round Table | Round Table | Round Table | Round Table | 366 K. Zuzek-Rozman OS | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table |
| 14:40 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| 15:10 | Round Table | Round Table | 311 L. Pavić OS | Round Table | 243 P. Kervalishvili OS-K | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table |
| 15:35 | Round Table | Round Table | 330 E. Perez OS-I | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table |
| 16:00 | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table |
| 16:25 | Round Table | Round Table | 214 N. Chen OS | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table |
| 16:50 | COFFEE BREAK/POSTERS/EXHIBITION - BALLROOM FOYER | | | | | | | | | | |
| 17:20 | Round Table | Round Table | 429 M. Javed OS | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table |
| 17:45 | Round Table | Round Table | 430 X. Zhang OS | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table | Round Table |
| | FREE EVENING WITH INDIVIDUAL DINNERS AT THE HOTEL | | | | | | | | | | |

Meeting Rooms Diagram



Map of the Hotel



- | | | | |
|--|--|--|--|
| 1. Main Lobby | 11. Desires Lounge | 19. Preferred Club Adults-Only Pool | 28. Beach Volleyball / Beach Soccer / Kayaks |
| 2. Coco Café | 12. Convention Center | 20. Seaside Grill Restaurant | 29. Explorer's Club for Kids |
| 3. Gift Shop & Boutique | 13. Market Café / Portofino (Lobby Level) | 21. Barracuda Bar | 30. Barefoot Grill |
| 4. Weddings & Events Showroom | 14. Bordeaux Restaurant (Lobby Level) | 22. Manatees Bar | 31. Wedding Deck |
| 5. Coral Reef and Seashell Meeting Rooms | 15. Preferred Club Lounge (Upper Level) | 23. Main Pool | 32. Preferred Club Pool Bar |
| 6. Fitness Center (Lobby Level) | 16. Dreams Spa by Pevonia® & Beauty Parlor (Upper Level) | 24. Entertainment Center / Towel Center | ← Jogging Path |
| 7. Rainforest Wing | 17. Canal Wing | 25. Oceana Restaurant | ♥ Romantic Spot |
| 8. Rendezvous Bar | 18. Dreams Plaza | 26. Putting Green | 🐾 Dog Garden |
| 9. Front Desk | | 27. Batting Cage / Driving Range / Archery | |
| 10. Concierge / Tour Desk | | | |

International Committee

This summit is being 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.



AFRICA

- **Chung Tae Kim**, Addis Ababa Science and Technology University, Ethiopia

ASIA

- **Farman Ahmed**, FMRRRC/P.C.S.I.R., Pakistan
- **Paul Butterworth**, CRU International, Singapore
- **Lijie Guo**, University of Toronto, Canada
- **Yoshihisa Hayakawa**, Rikkyo University, Japan
- **Wei-Hua Huang**, Wuhan University, China
- **Haruhiko Inufusa**, TIMA Japan & Gifu University, Japan
- **Yoshihito Kawamura**, Kumamoto University, Japan
- **Shuji Kitayama**, Kobe Steel, Japan
- **Hirokazu Konishi**, Osaka University, Japan
- **Lang Liu**, XI'AN University, China
- **Akinori Murao**, JFE Steel Corporation, Japan
- **Seiji Nomura**, Nippon Steel Corp., Japan
- **Takahiko Okura**, Ehime University, Japan
- **Hideki Ono**, University of Toyama, Japan
- **R. M. Gamini Rajapakse**, University of Peradeniya, Sri Lanka
- **Koji Saito**, Nippon Steel, Japan
- **Kazuhiro Seto**, JFE Steel Corporation, Japan
- **Donald Shih**, Magnesium Research Center, Kumamoto University, Japan
- **Yuichi Shimakawa**, Kyoto University, Japan

- **Mikio Takano**, Okayama/Kyoto, Japan
- **Keyong Tang**, Zhengzhou University, China
- **Jun-Ichi Tani**, Nippon Steel Corp., Japan
- **Nguyen Nhu Thanh**, Leather&Shoes Research Institute, Vietnam
- **Sabu Thomas**, Mahatma Gandhi University, India
- **Zhi Wang**, Dongying Fangyuan, China
- **Masahiro Yoshizawa-Fujita**, Sophia University, Japan

AUSTRALIA

- **Raj Das**, RMIT University in Australia, Australia
- **Nasser Khalili**, UNSW, Australia
- **Liming Lu**, CSIRO, Australia
- **Douglas Macfarlane**, Monash University, Australia
- **Krishnaveni Venkidusamy**, University of South Australia, Australia

EUROPE

- **Elias Aifantis**, Aristotle University of Thessaloniki, Greece
- **Shumskiy Viktor Alexandrovich**, Science in the area of metallurgy, Kazakhstan
- **Christian Andre Amatore**, CNRS & PSL, French Academy of Sciences, France
- **Juergen Antrekowitsch**, Christian Doppler Laboratory, Austria
- **Michaela Barinova**, Tomas Bata University in Zlin, Czech Republic
- **Mariana Calin**, IFW Dresden, Germany
- **Claudio Capiglia**, Reliance Industries Limited, India
- **Nikoloz Chikhradze**, G. Tsulukidze Mining Institute, Georgia
- **Andrey Dmitriev**, Russian Academy of Sciences - Ural, Russian Federation
- **Jean-Marie Dubois**, Institut Jean Lamour, France
- **Jean Etourneau**, University of Bordeaux, France
- **Nicholas Fantuzzi**, University of Bologna, Italy
- **Rasmus Fehrmann**, DTU, Denmark
- **Athan Fox**, Ever Resource Ltd, United Kingdom
- **Maarten Geerdes**, Geerdes Advies, Netherlands
- **Hasan Giray**, Eti Krom, Turkey
- **Dyubanov Valeriy Grigorievich**, Baykov Metallurgy & Materials Institute, Russian Federation
- **Leontyev Leopold Igoryevich**, Russian Academy of Sciences, Russian Federation

- **Soteris Kalogirou**, Cyprus University of Technology, Cyprus
- **Sergey Kolyvanov**, OOO TFZ, Russian Federation
- **Vasant Kumar**, University of Cambridge, United Kingdom
- **Alois Loidl**, Institute of Physics, University of Augsburg, Germany
- **Rodrigo Martins**, CEMOP/UNINOVA, Portugal
- **Manfred Mauntz**, cmc Instruments GmbH, Germany
- **Hasan Ozgunay**, Ege University, Turkey
- **Ioannis Paspaliaris**, National Technical University of Athens, Greece
- **Francesco Pesavento**, University of Padova, Italy
- **Tetiana Prikhna**, V. Bakul Institute NASU, Ukraine
- **Bernard Raveau**, University of Caen, France
- **Gudrun Saevarsdottir**, Reykjavik University, Iceland
- **Henrik Saxen**, Abo Akademi University, Finland
- **Igor Startsev**, VNIItsvetmet, Kazakhstan
- **Johan Svensson**, Vargon Alloys AB, Sweden
- **Harry Van Goor**, UMCG, Netherlands
- **Tarasov Andrey Vladimirovich**, Gintsvetmet Institute, Russian Federation
- **Lothar Wondraczek**, Friedrich Schiller University Jena, Germany
- **Yuanzheng Yue**, Aalborg University, Denmark

NORTH AMERICA

- **Katerina Aifantis**, University of Florida, United States
- **Antoine Allanore**, Massachusetts Institute of Technology, United States
- **Greg Baiden**, Penguin Automated Systems Inc., Canada
- **Douglas Bammann**, Mississippi State University, United States
- **Mike Baskes**, Mississippi State University, United States
- **John Baumgardner**, Liberty University, United States
- **David Carey**, Bear Metallurgical Company, United States
- **Harold Dodds**, University of Tennessee, United States
- **David Dzombak**, Carnegie Mellon University(CMU), United States
- **Yakov Gordon**, Hatch, Canada
- **Michael Grant**, Air Liquide, Germany
- **Kyle Johnson**, Sandia National Laboratories, United States
- **J. Brian Jordon**, The University of Alabama, United States
- **Stewart Lewis**, Pyramid Polymers LLC, United States
- **Dennis Lu**, ArcelorMittal, United States
- **Stephen Miller**, University of Florida, United States
- **Nathaniel Morgan**, Los Alamos National Lab, United States
- **Ferid Murad**, Stanford University, United States

- **Kenneth Poeppelmeier**, Northwestern University, United States
- **Raj Prabhu**, Mississippi State University, United States
- **Arunachalam Rajendran**, University of Mississippi, United States
- **Hong Yong Sohn**, University of Utah, United States
- **Ponisseril Somasundaran**, Columbia University, United States
- **Tamer Turna**, BLOOM ENERGY CORPORATION, United States

SOUTH AMERICA

- **Paulo Assis**, University of Ouro Preto / REDEMAT, Brazil
- **Vanessa Bernal**, Catalista Business Lab, Panama
- **Marcos De Campos**, UFF - Federal Fluminense University, Brazil
- **Jairton Dupont**, UFRGS, Brazil
- **Mery-Cecilia Gomez Marroquin**, National University of Engineering, Peru
- **Erivelto Souza**, Federal University of São João Del Rei, Brazil

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Social Events

(Preliminary)

Monday, 27 November: Welcoming Informal Dinner and Dancing/Entertainment show at The Plaza Space (outdoor). **Attire:** Casual or Business

Tuesday, 28 November: Buffet Dinner and Panamanian Night Dancing/Entertainment Show at Sand Court (outdoor). **Attire:** Casual or Business

Wednesday, 29 November: Gala Dinner and Awards Night, Full Course Meal & Dancing Show at Dreams 1 Ballroom. **Attire:** Formal Black Tie/Business

Thursday, 30 November: Free Evening with Individual Dinners at the Hotel. **Attire:** Casual

Friday, 1 December: Free Evening with Individual Dinners at the Hotel. **Attire:** Casual

IMPORTANT NOTE: All attendees and guests must always keep their badges on, 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 15, 2023 – subject to change)

SESSION: **SummitPlenaryTueAM**

Tue. 28 Nov. 2023

Room: **Dreams 1 Ballroom**

Session Chair: Florian Kongoli

08:00: [SummitPlenaryTueAM01] OS General Plenary

FLOGEN SUSTAINABILITY FRAMEWORK - PART 1

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

Paper ID: 503

08:15: [SummitPlenaryTueAM02] OS General Plenary

50 YEARS OLD: NOW PUSHING LITHIUM BATTERIES TO THEIR ULTIMATE LIMITS LEADING TO A CLEANER FOSSIL-FUEL FREE SOCIETY

Stanley Whittingham¹; ¹Binghamton University, New York, United States;

Paper ID: 422

08:40: [SummitPlenaryTueAM03] OS General Plenary

INTRAPRENEURSHIP IN LARGE ORGANIZATIONS - A MODEL FOR SUCCESS

Dan Shechtman¹; ¹Technion, Haifa, Israel;

Paper ID: 517

09:05: [SummitPlenaryTueAM04] OS General Plenary

THE NEW AREA OF OXIDATIVE STRESS MANAGEMENT FOR PREVENTING AND CURING DISEASES

Haruhiko Inufusa¹; ¹Gifu University, Antioxidant Research, Gifu, Japan;

Paper ID: 516

09:30: [SummitPlenaryTueAM05] OS General Plenary

GORCEIX FOUNDATION – A SUSTAINABLE ORGANIZATION ACTING ON EDUCATION, SCIENCE, TECHNOLOGY AND SOCIAL DEVELOPMENT

Cristovam Paes De Oliveira¹; Fernando Gabriel Da Silva Araujo²; ¹Gorceix Foundation, Ouro Preto, Brazil; ²Gorceix Foundation, Ouro Preto, Brazil;

Paper ID: 471

09:55: [SummitPlenaryTueAM06] OS General Plenary

BASIC SCIENCE AND THE US OFFICE OF NAVAL RESEARCH GLOBAL

Arturo A. Ayón¹; Christopher Konek¹; ¹U.S. Office of Naval Research Global (ONRG), Sao Paulo, Brazil;

Paper ID: 514

10:20: [SummitPlenaryTueAM07] OS General Plenary

DEEP LEARNING FROM NATURE AND MACHINES

Subra Suresh¹; ¹President, World Learning Council, Switzerland, Switzerland;

Paper ID: 419

SESSION: SummitPlenaryWedAM

Wed. 29 Nov. 2023

Room: **Dreams 1 Ballroom**

Session Chair: Florian Kongoli

08:00: [SummitPlenaryWedAM01] OS General Plenary
DISCOVERY OF NITRIC OXIDE AND CYCLIC GMP IN CELL SIGNALING AND DRUG DEVELOPMENT

Ferid Murad Presented By Dr. Florian Kongoli¹; ¹Stanford University, USA, United States;
Paper ID: 500

08:15: [SummitPlenaryWedAM02] OS General Plenary
CAPTURING MOTION OF BIOMOLECULES BY SINGLE-PARTICLE Cryo-EM
Joachim Frank¹; ¹Columbia University Irving Medical Center, New York, United States;
Paper ID: 428

08:40: [SummitPlenaryWedAM03] OS General Plenary
ROLES OF PROTEIN DEGRADATION IN HEALTH AND DISEASE
Avram Hershko¹; ¹Technion Institute of Technology, Mont-Royal, Israel;
Paper ID: 511

09:05: [SummitPlenaryWedAM04] OS General Plenary
THE CHALLENGES AND OPPORTUNITIES OF SAMARCO TOWARD 2050 SUSTAINABLE AGENDA
Rodrigo Alvarenga Vilela¹; Felipe Otávio Morato²; Thiago Marchezi Doellinger³; Giovanni Felice Salierno⁴; ¹Samarco, Brazil; ²Samarco, Anchieta, Brazil; ³Samarco Mineração SA, Belo Horizonte, Brazil; ⁴SAMARCO Mineração S/A, Ouro Preto, Brazil;
Paper ID: 305

09:30: [SummitPlenaryWedAM05] OS General Plenary
SUSTAINABILITY FRAMEWORK, NEW TECHNOLOGIES AND HUMAN RIGHTS
Hunter Carter¹; ¹ArentFox Schiff, New York, United States;
Paper ID: 518

09:55: [SummitPlenaryWedAM06] OS General Plenary
SINGLE MOLECULE STUDIES OF ENZYMES AND INTERCONVERSION OF MECHANICAL AND CHEMICAL ENERGY IN A BIOLOGICAL MACHINE, F1ATPase, THEORY AND EXPERIMENT
Rudy A. Marcus¹; ¹CALTECH, California, United States;
Paper ID: 501

10:20: [SummitPlenaryWedAM07] OS General Plenary
DEVELOPMENT OF PRECISION THERAPY FOR HELICOBACTER PYLORI
Barry James Marshall¹; ¹University of Western Australia, Crawley, Australia;
Paper ID: 510

SESSION: SummitPlenaryThuAM

Thu. 30 Nov. 2023

Room: **Dreams 1 Ballroom**

Session Chair: Florian Kongoli

08:00: [SummitPlenaryThuAM01] OS General Plenary
FLOGEN SUSTAINABILITY FRAMEWORK - PART 2
Florian Kongoli¹; ¹FLOGEN Star OUTREACH, Montreal, Canada;
Paper ID: 504

08:15: [SummitPlenaryThuAM02] OS General Plenary
THE REVOLUTION OF PERSONALIZED MEDICINE: ARE WE GOING TO CURE ALL DISEASES AND AT WHAT PRICE ?
Aaron Ciechanover¹; ¹Technion-Israel Institute of Technology, Haifa, Israel;
Paper ID: 508

08:40: [SummitPlenaryThuAM03] OS General Plenary
SUSTAINABILITY FRAMEWORK AND THE ROLE OF ADVANCED MATERIALS AND NEW TECHNOLOGIES
Fernand Marquis¹; ¹Integrated Materials Technologies and Systems (IMTS), United States;
Paper ID: 519

09:05: [SummitPlenaryThuAM04] OS General Plenary
INTERDISCIPLINARY APPROACHES IN BIOTECHNOLOGY AND BIO-INNOVATION: PRECISION MEDICINE AND HUMAN GENOME EDITING
Nektarios Tavernarakis¹; ¹Chair, EIT Governing Board (European Institute of Innovation & Technology), Heraklion, Greece;
Paper ID: 451

09:30: [SummitPlenaryThuAM05] OS General Plenary
ILLCIT FENTANYL: A PERFECT STORM IN SCIENCE
Donna Nelson¹; ¹University of Oklahoma USA, Oklahoma, United States;
Paper ID: 513

09:55: [SummitPlenaryThuAM06] 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: 515

10:20: [SummitPlenaryThuAM07] OS General Plenary
NMR IN STRUCTURAL BIOLOGY: HISTORY PLACED IN PERSPECTIVE
Kurt Wuthrich¹; ¹ETH Zurich Switzerland and Scripps Research, USA, Switzerland;
Paper ID: 509

10:45: [SummitPlenaryThuAM08] OS General Plenary

**THE NOVEL NUCLEAR HYPERFUSIONS WITHOUT THE COULOMB BARRIER
AND THEIR INDUSTRIAL REALIZATION**

Ruggero Maria Santilli¹; ¹Hadronic Technologies Corporation, Palm Harbor, United States;

Paper ID: 114

Scientific Program

Oral Presentations

Tuesday

08:00 SUMMIT PLENARY

11:10 BREAK

| | |
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| SESSION: OxidativeTueAM-R1 | Ozawa International Symposium (3rd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings) |
| Tue. 28 Nov. 2023 / Room: Dreams 1 | |
| Session Chairs: Haruhiko Inufusa ; Koji Fukui ; Session Monitor: TBA | |

11:30: [OxidativeTueAM01] OS Plenary

WHY TWENDEE X SUCCESSFULLY PREVENTED DEMENTIA?

Haruhiko Inufusa¹; Fuhua Yang²; Yoshiaki Harakawa³; Toshikazu Yoshikawa⁴; ¹Gifu University, Antioxidant Research, Gifu, 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: 152

11:55: [OxidativeTueAM02] OS Plenary

THE EFFECT TWENDEE ON THE QUALITY OF PEOPLE'S LIFE AND ON CONTROLLING VARIOUS DISEASES

Florian Kongoli¹; Haruhiko Inufusa²; ¹FLOGEN Technologies, Mont-Royal, Canada; ²Gifu University, Antioxidant Research, Gifu, Japan;

Paper ID: 466

12:20: [OxidativeTueAM03] OS

IMPROVEMENT QUALITY OF LIFE WITH ANTIOXIDANT COMPOSITION

Fuhua Yang¹; Yoshiaki Harakawa²; Toshikazu Yoshikawa³; Haruhiko Inufusa⁴; ¹Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-oxidant Research, Gifu University, Gifu, Japan; ³Louis Pasteur Center, Kyoto, Japan; ⁴Gifu University, Antioxidant Research, Gifu, Japan;

Paper ID: 106

12:45: [OxidativeTueAM04] OS

COMBINATION SUPPLEMENT, TWENDEE X IMPROVES LEARNING DYSFUNCTION IN LONG-TERM VITAMIN E-DEFICIENT MICE

Koji Fukui¹; Fuhua Yang²; Yoshiaki Harakawa³; Toshikazu Yoshikawa⁴; Haruhiko

Inufusa⁵; 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 Center, Kyoto, Japan; ⁵Gifu University, Antioxidant Research, Gifu, Japan;
Paper ID: 154

13:10 LUNCH

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|---|--|
| SESSION: OxidativeTuePM1-R1 | Ozawa International Symposium (3rd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings) |
| Tue. 28 Nov. 2023 / Room: Dreams 1 | |
| Session Chairs: Christian Andre Amatore ; Koji Fukui ; <u>Session Monitor</u> : TBA | |

14:00: [OxidativeTuePM105] OS Plenary
**DUAL-CHANNEL NANO-ELECTROCHEMICAL SENSOR FOR MONITORING
SIMULTANEOUSLY INTRACELLULAR ROS AND NADH KINETIC VARIATIONS OF
THEIR CONCENTRATIONS**

Christian Andre Amatore¹; Wei-Hua Huang²; Yu-Ting Jiao²; Xiao-Ke Yang²; Yu-Ting Qi²; ¹CNRS & PSL, French Academy of Sciences, Paris, France; ²Wuhan University, Wuhan, China;
Paper ID: 177

14:25: [OxidativeTuePM106] OS
**APPLICATION OF AN ANTIOXIDANT COMBINATION PRODUCT IN THE
TREATMENT OF SYSTEMIC SCLEROSIS**

Fuhua Yang¹; Yoshiaki Harakawa²; Toshikazu Yoshikawa³; Haruhiko Inufusa⁴;
¹Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-oxidant Research, Gifu University, Gifu, Japan; ³Louis Pasteur Center, Kyoto, Japan; ⁴Gifu University, Antioxidant Research, Gifu, Japan;
Paper ID: 107

14:50: [OxidativeTuePM107] OS
TWENDEE MT CONTROL IMPROVES COGNITIVE FUNCTION IN AGED MICE

Koji Fukui¹; Fuhua Yang²; Yugo Kato³; Shuya Yuzawa¹; Ayuta Kishimoto¹; Takuma Hara¹; Yuki Kanome¹; Yoshiaki Harakawa⁴; Toshikazu Yoshikawa⁵; Haruhiko Inufusa⁶;
¹Shibaura Institute of Technology, Saitama, Japan; ²Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ³Tottori University, Yonago, Japan; ⁴Division of Anti-oxidant Research, Gifu University, Gifu, Japan; ⁵Louis Pasteur Center, Kyoto, Japan; ⁶Gifu University, Antioxidant Research, Gifu, Japan;
Paper ID: 153

15:15: [OxidativeTuePM108] OS
OLD AGE ODOR AND OXIDATIVE STRESS

Haruhiko Inufusa¹; Fuhua Yang²; Yoshiaki Harakawa³; Toshikazu Yoshikawa⁴; ¹Gifu

University, Antioxidant Research, Gifu, 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: 151

15:40 BREAK

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| SESSION: OxidativeTuePM2-R1 | Ozawa International Symposium (3rd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings) |
| Tue. 28 Nov. 2023 / Room: Dreams 1 | |
| Session Chairs: Fuhua Yang ; Christian Andre Amatore ; Session Monitor: TBA | |

15:55: [OxidativeTuePM209] OS Plenary

ALZHEIMER DISEASE: NANO-ELECTROCHEMISTRY REVEALS HOW SOLUBLE A β 42 OLIGOMERS ALTER VESICULAR STORAGE AND RELEASE OF GLUTAMATE

Christian Andre Amatore¹; Wei-Hua Huang²; Xiao-Ke Yang²; Fu-Li Zhang²; Xue-Ke Jin²; Yu-Ting Jiao²; Yan-Ling Liu²; ¹CNRS & PSL, French Academy of Sciences, Paris, France; ²Wuhan University, Wuhan, China;
Paper ID: 181

16:20: [OxidativeTuePM210] OL Plenary

EFFECTS OF ANTI-OXIDANT, TWENDEE X, FOR REGENERATION OF THE VOCAL FOLD AFTER SURGERY

Shigeru Hirano¹; Mami Kaneko¹; Yoichiro Sugiyama²; Haruhiko Inufusa³; ¹Kyoto Prefectural University of Medicine, Kyoto, Japan; ²Department of Otolaryngology-Head and Neck Surgery, Kyoto Prefectural University of Medicine, Kyoto, Japan; ³Gifu University, Antioxidant Research, Gifu, Japan;
Paper ID: 121

16:45: [OxidativeTuePM211] OL

ALLERGIC DISEASES AND OXIDATIVE STRESS

Yoshiaki Harakawa¹; Fuhua Yang²; Toshikazu Yoshikawa³; Haruhiko Inufusa⁴; ¹Division of Anti-oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ³Louis Pasteur Medical Research Center, Kyoto, Japan; ⁴Gifu University, Antioxidant Research, Gifu, Japan;
Paper ID: 104

17:10: [OxidativeTuePM212] OL

PROTECTION OF VOCAL FOLD BY BASIC FIBROBLAST GROWTH FACTOR

Shigeru Hirano¹; ¹Kyoto Prefectural University of Medicine, Kyoto, Japan;
Paper ID: 129

17:35 BREAK

SESSION:
OxidativeTuePM3-R1

Ozawa International Symposium (3rd
Intl. Symp. on **Oxidative** Stress for
Sustainable Development of Human
Beings)

Tue. 28 Nov. 2023 / Room: **Dreams 1**

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

17:50: [OxidativeTuePM313] OL

ANTIOXIDANTS AS A POTENTIAL TREATMENT FOR ULCERATIVE COLITIS

Yoshiaki Harakawa¹; Fuhua **Yang**²; Toshikazu Yoshikawa³; **Haruhiko Inufusa**⁴;

¹Division of Anti-oxidant Research, Gifu University, Gifu, Japan; ²Division of Anti-Oxidant Research, Gifu University, Gifu, Japan; ³Louis Pasteur Medical Research Center, Kyoto, Japan; ⁴Gifu University, Antioxidant Research, Gifu, Japan;

Paper ID: 105

18:15: [OxidativeTuePM314] OL

NANOPORE ELECTROCHEMISTRY FOR SINGLE-MOLECULE ANALYSIS

Yi-Tao Long¹; ¹Nanjing University, Nanjing, China;

Paper ID: 444

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:
IronTueAM-R2

Assis International Symposium (9th Intl.
Symp. on Advanced Sustainable **Iron &**
Steel Making)

Tue. 28 Nov. 2023 / Room: **Dreams 2**

Session Chairs: Tateo **Usui**; Marcos **De Campos**; Session Monitor: TBA

11:30: [IronTueAM01] OS Plenary

AN INDUSTRIAL AND ACADEMIC LIFE DEDICATED TO IRON PRODUCTION

Paulo Assis¹; ¹University of Ouro Preto / REDEMAT, Ouro Preto, Brazil;

Paper ID: 464

11:55: [IronTueAM02] OS Keynote

**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; ²Seibu Metal Heat Treatment Industry Cooperative Association, Osaka, 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: 126

12:20: [IronTueAM03] OS Keynote

HYDROGEN PRODUCTION AND ITS IMPACT FOR SIDERURGY

Marcos De Campos¹; Jose Adilson De Castro¹; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil;
Paper ID: 20

12:45: [IronTueAM04] OS Keynote

THE USE OF BIOMASS IN THE STEEL INDUSTRY AS A SUSTAINABLE ALTERNATIVE

Gabriela Araujo Gois¹; Paulo Assis²; ¹UFOP/REDEMAT, Ouro Preto/MG, Brazil; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil;
Paper ID: 115

13:10 LUNCH

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| SESSION: IronTuePM1-R2 | Assis International Symposium (9th Intl. Symp. on Advanced Sustainable Iron & Steel Making) |
| Tue. 28 Nov. 2023 / Room: Dreams 2 | |
| Session Chairs: Tateo Usui ; Giulio Antunes De Medeiros ; Session Monitor: TBA | |

14:00: [IronTuePM105] OS Keynote

USE OF SUSTAINABLE BY-PRODUCTS FOR STEEL MAKING - CASE FROM SAMARCO PELLETS

Raphael Medeiros¹; Ana Maria Guilherme Bailon¹; Felipe Otávio Morato¹; José Hamilton Tavares¹; ¹Samarco, Anchieta, Brazil;
Paper ID: 216

14:25: [IronTuePM106] OS Plenary

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

Florian Kongoli¹; ¹FLOGEN Technologies, Mont-Royal, Canada;
Paper ID: 502

14:50: [IronTuePM107] OS Keynote

ELECTRIC VEHICLES: A POSSIBLE RESPONSE TO CLIMATE EMERGENCIES

Nathália Balzana Anacleto¹; Gabrielle De Castro Martins²; Michelle Dos Santos Marinho³; ¹Programa de Pós-Graduação em Arquitetura e Urbanismo da Universidade Federal Fluminense - PPGAU-UFF, Niterói, Brazil; ²UNIVERSIDADE FEDERAL FLUMINENSE, São Gonçalo, Brazil; ³Hélio Alonso Integrated Colleges, Rio de Janeiro,

Brazil;
Paper ID: 358

15:15: [IronTuePM108] OS

REDUCTION RATE ENHANCEMENT OF CARBON COMPOSITE IRON OXIDE PELLETS BY USING SEMI-CHAR OR SEMI-CHARCOAL

Tateo Usui¹; Hirokazu Konishi²; Kazuhira Ichikawa³; Hideki Ono⁴; Hirotohi Kawabata²; Paulo Assis⁵; ¹Osaka University, Ibaraki, Japan; ²Osaka University, Suita, Japan; ³JFE Steel Corporation, Fukuyama, Japan; ⁴University of Toyama, Toyama, Japan; ⁵University of Ouro Preto / REDEMAT, Ouro Preto, Brazil;
Paper ID: 424

15:40 BREAK

| | |
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| SESSION: IronTuePM2-R2 | Assis International Symposium (9th Intl. Symp. on Advanced Sustainable Iron & Steel Making) |
| Tue. 28 Nov. 2023 / Room: Dreams 2 | |
| <u>Session Chairs</u> : Gabriela Araujo Gois ; Giovanni Felice Salierno ; <u>Session Monitor</u> : TBA | |

15:55: [IronTuePM209] OS

MATHEMATICAL MODELING, SIMULATION AND OPTIMIZATION OF IRON ORE SINTERING PROCESS FOR QUALITY, FUEL EFFICIENCY AND POLLUTION CONTROL

Niloy Kumar Nath¹; Paulo Assis²; Jose Adilson De Castro³; ¹JSPM's Rajarshi Shahu College of Engineering, Pune, India, Pune, India; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil; ³UFF - Federal Fluminense University, Volta Redonda, Brazil;
Paper ID: 338

16:20: [IronTuePM210] OS

STUDY OF VARIATIONS IN MICROSTRUCTURES AND PROPERTIES OF SINTERED Ni-Ti ALLOYS ACCORDING TO LOADS APPLIED IN COMPACTION AND SINTERING TEMPERATURES AND TIMES

Gabriela Araujo Gois¹; Paulo Assis²; Orimar Reis³; ¹UFOP/REDEMAT, Ouro Preto/MG, Brazil; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil; ³Instituto Federal de Minas Gerais, Ouro Preto, Brazil;
Paper ID: 116

16:45: [IronTuePM211] OS

ADVANCED PROCESS CONTROLS IN THE MAIN STEPS FOR PELLETIZING FROM SAMARCO

Giovanni Felice Salierno¹; Ana Maria Guilherme Bailon²; Felipe Otávio Morato²; ¹SAMARCO Mineração S/A, Ouro Preto, Brazil; ²Samarco, Anchieta, Brazil;
Paper ID: 231

17:10: [IronTuePM212] OS

BIOMASS CONSUMPTION IN A STEAM GENERATOR IN THE CONTEXT OF THE BRAZILIAN SCENARIO

Dimas Coura¹; Paulo Assis²; ¹Federal University of Ouro Preto, Conselheiro Lafaiete, Brazil; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil;

Paper ID: 60

17:35 BREAK

| | |
|---|--|
| SESSION: IronTuePM3-R2 | Assis International Symposium (9th Intl. Symp. on Advanced Sustainable Iron & Steel Making) |
| Tue. 28 Nov. 2023 / Room: Dreams 2 | |
| <u>Session Chairs</u> : José Hamilton Tavares ; <u>Session Monitor</u> : TBA | |

17:50: [IronTuePM313] OS

RESISTANCE TO DEGRADATION OF PELLETS WITH DIFFERENT CONTENTS OF ULTRAFINE IRON ORE PARTICLES

Ana Maria Guilherme Bailon¹; Felipe Otávio Morato¹; **José Hamilton Tavares**¹; Fernanda Souza Pasolini Pasolini²; Luis Marcelo Tavares³; Raphael Medeiros¹;

¹Samarco, Anchieta, Brazil; ²SAMARCO, ANCHIETA, Brazil; ³Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil;

Paper ID: 289

18:15: [IronTuePM314] OS

EFFECTS OF COMPRESSIVE STRESS ON CORRSION-PROTECTIVE QUALITY AND ITS MAINTENANCE UNDER A CORROSIVE ENVIRONMENT FOR TIN FILMS DEPOSITED BY REACTIVE HCD ION PLATING

Ken'ichi Miura¹; Itsuo Ishigami²; Tateo Usui³; ¹Izumi Center, Osaka Research Institute of Industrial Science and Technology, Izumi, Japan; ²Osaka Prefecrure Federation of Small Business Associations, Osaka, Japan; ³Osaka University, Ibaraki, Japan;

Paper ID: 137

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

| | |
|---|---|
| SESSION: NanomaterialsTueAM-R3 | Echegoyen International Symposium (8th Intl. Symp. on Synthesis & Properties of Nanomaterials for Future Energy Demands) |
| Tue. 28 Nov. 2023 / Room: Dreams 3 | |
| Session Chairs: Dirk Michael Guldi ; Fred Wudl ; Session Monitor: TBA | |

11:30: [NanomaterialsTueAM01] OS Plenary
A LIFE DEDICATED TO CHEMISTRY AND NANOMATERIALS FOR ENERGY
Luis Echegoyen¹; ¹American Chemical Society, El Paso, United States;
 Paper ID: 463

11:55: [NanomaterialsTueAM02] OS Plenary
ORGANIC MATERIALS: EVERYTHING EVERYWHERE ALL AT ONCE - PART 1
Fred Wudl¹; ¹UCSB, Santa Barbara, United States;
 Paper ID: 25

12:20: [NanomaterialsTueAM03] OS Plenary
ORGANIC MATERIALS: EVERYTHING EVERYWHERE ALL AT ONCE - PART 2
Fred Wudl¹; ¹UCSB, Santa Barbara, United States;
 Paper ID: 445

12:45: [NanomaterialsTueAM04] OS
**POLYHYDROXY FULLERENES AS SINGLE REDUCING AND STABILIZING AGENT
 FOR SYNTHESIZING NOBLE METAL NANOPARTICLES**
 Yue Xu¹; Min Gao²; Alan Chen¹; Robert Williams³; Vijay Krishna¹; ¹Cleveland Clinic,
 Cleveland, United States; ²Kent State University, Kent, United States; ³Ohio State
 University, Columbus, United States;
 Paper ID: 41

13:10 LUNCH

| | |
|--|---|
| SESSION: NanomaterialsTuePM1-R3 | Echegoyen International Symposium (8th Intl. Symp. on Synthesis & Properties of Nanomaterials for Future Energy Demands) |
| Tue. 28 Nov. 2023 / Room: Dreams 3 | |
| Session Chairs: Marta Płońska Brzezińska ; Yuhuang Wang ; Session Monitor: TBA | |

14:00: [NanomaterialsTuePM105] OS
**CARBON NANOONIONS AS A PLATFORM FOR DESIGNING MATERIALS WITH
 THE HIERARCHICAL POROSITY**
Marta Płońska Brzezińska¹; Agnieszka Hryniewicka²; Joanna Breczko²; Gabriela
 Siemiaszko²; Krzysztof Brzezinski³; Anna Ilnicka⁴; Artur Terzyk⁴; Luis Echegoyen⁵;
¹Medical U. of Białystok, Białystok, Poland; ²Medical University of Białystok, Białystok,

Poland; ³Institute of Bioorganic Chemistry, Polish Academy of Sciences, Poznan, Poland; ⁴Nicolaus Copernicus University in Torun, Torun, Poland; ⁵American Chemical Society, El Paso, United States;
Paper ID: 120

14:25: [NanomaterialsTuePM106] OS

DESIGN OF CARBON NANOMATERIALS FOR HIGH-PERFORMANCE BATTERIES

Elena Bekyarova¹; ¹Carbon Solutions Inc, Riverside, United States;

Paper ID: 23

14:50: [NanomaterialsTuePM107] OS

POROUS SINGLE ATOM ELECTROCATALYSTS WITH HIGH ELECTROCHEMICAL ACTIVE SITE UTILIZATION

Jesus Barrio Hermida¹; Angus Pedersen¹; Ifan Stephens¹; Magda Titirici¹; ¹Imperial College London, London, United Kingdom;

Paper ID: 22

15:15: [NanomaterialsTuePM108] OS

QUANTUM DEFECTS IN NANOCARBON

Yuhuang Wang¹; ¹University of Maryland, College Park, College Park, United States;

Paper ID: 16

15:40 BREAK

| | |
|--|---|
| SESSION: NanomaterialsTuePM2-R3 | Echegoyen International Symposium (8th Intl. Symp. on Synthesis & Properties of Nanomaterials for Future Energy Demands) |
| Tue. 28 Nov. 2023 / Room: Dreams 3 | |
| <u>Session Chairs:</u> Dirk Michael Guldi ; Steven De Feyter ; <u>Session Monitor:</u> TBA | |

15:55: [NanomaterialsTuePM209] OS

SOLAR ENERGY CONVERSION SCHEMES: PHOTON- AND CHARGE-MANAGEMENT IN NANOCARBONS

Dirk Michael Guldi¹; ¹Friedrich-Alexander-Univ. Erlangen, Erlangen, Germany;

Paper ID: 12

16:20: [NanomaterialsTuePM210] OS

OPTIMIZING PERFORMANCE AND LIFESPAN OF HIGH-TEMPERATURE PEM FUEL CELLS WITH PBI TECHNOLOGY

Kobra Azizi¹; Nedjeljko Seselj²; Eftychia Bompolaki³; Silvia M.Alfaro⁴; Lars N. Cleemann³; ¹Blue World Technologies, 3490 Kvistgård, Denmark; ²Blue World Technologies 3490 Kvistgård - Denmark, Kvistgård, Denmark; ³Blue World Technologies, Kvistgaard, Denmark; ⁴Blue World Technologies, Kvistgård, Denmark;

Paper ID: 55

16:45: [NanomaterialsTuePM211] OS

FORMATION AND FUNCTIONALIZATION OF 2D MATERIALS: A MOLECULAR APPROACH

Steven De Feyter¹; ¹KU Leuven, Leuven, Belgium;

Paper ID: 27

17:10: [NanomaterialsTuePM212] OS Invited

PERYLENEDIIMIDE, AZOBENZENE AND PHTHALOCYANINE: THE ODD COUPLE + 1

Fernando Fernandez-Lazaro¹; ¹Universidad Miguel Hernandez de Elche, Elche, Spain;

Paper ID: 187

17:35 BREAK

SESSION:

NanomaterialsTuePM3-R3

Tue. 28 Nov. 2023 / Room: **Dreams 3**

Session Chairs: Jianyuan **Zhang**; Session Monitor: TBA

Echegoyen International Symposium
(8th Intl. Symp. on Synthesis & Properties
of **Nanomaterials** for Future Energy
Demands)

17:50: [NanomaterialsTuePM313] OS

ALBUS: ALGAE-BASED BIOPRODUCTS UTILIZING SORBENT-CAPTURED CO₂

Maira Ceron¹; Todd Lane²; Kimberly Ogden³; Robert Thomas Currin⁴; ¹Lawrence Livermore National Lab, Livermore, United States; ²Sandia National Laboratories, Livermore, United States; ³University of Arizona, Tucson, United States; ⁴Southwest Technologies LLC, United States;

Paper ID: 396

18:15: [NanomaterialsTuePM314] OS

AN INVERSE ELECTRON DEMAND DIELS-ALDER REACTION FOR FULLERENES AND METALLOFULLERENES

Jianyuan Zhang¹; Yue Sun¹; ¹Rutgers University, Piscataway, United States;

Paper ID: 21

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:
SolidStateChemistryTueAM-R4

**Poepelmeier International
Symposium**(3rd Intl Symp on **Solid State
Chemistry** for Applications & Sustainable
Development)

Tue. 28 Nov. 2023 / Room: **Dreams 4**

Session Chairs: Shiv **Halasyamani**; Session Monitor: TBA

11:30: [SolidStateChemistryTueAM01] OS Plenary

NONCENTROSYMMETRIC CRYSTALS

Kenneth Poepelmeier¹; ¹Northwestern University, Evanston, United States;

Paper ID: 343

11:55: [SolidStateChemistryTueAM02] OS

FUNCTIONAL INORGANIC MATERIALS

Shiv Halasyamani¹; ¹University of Houston, Houston, United States;

Paper ID: 72

12:20: [SolidStateChemistryTueAM03] OS

THE COMPLEX STRUCTURE & MICROSTRUCTURE OF “CUBIC” PbCrO₃

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

Paper ID: 95

12:45: [SolidStateChemistryTueAM04] OL

**EARTH-ABUNDANT METAL OXIDE NANOPARTICLES FOR HIGHLY EFFECTIVE
CATALYTIC HYDROGENOLYSIS OF POLYOLEFINS**

Wenyu Huang¹; ¹Iowa State University, Ames, United States;

Paper ID: 276

13:10 LUNCH

SESSION:
SolidStateChemistryTuePM1-R4

**Poepelmeier International
Symposium**(3rd Intl Symp on **Solid State
Chemistry** for Applications & Sustainable
Development)

Tue. 28 Nov. 2023 / Room: **Dreams 4**

Session Chairs: Romain **Gautier**; Session Monitor: TBA

14:00: [SolidStateChemistryTuePM105] OS

**DESIGNING TUNGSTEN BRONZE OXIDES FOR ENHANCED NONLINEAR
OPTICAL EFFECTS**

Kang Min Ok¹; ¹Sogang University, Seoul, South Korea;

Paper ID: 183

14:25: [SolidStateChemistryTuePM106] OS

FLUOROOXOBORATES: NOVEL CANDIDATES FOR DEEP-UV NONLINEAR

OPTICAL MATERIALS

Shilie Pan¹; Miriding Mutailipu²; ¹Xinjiang Technical Institute of Physics & Chemistry, Chinese Academy of Sciences, Urumqi, China; ²Chinese Academy of Sciences, Urumqi, China;
Paper ID: 91

14:50: [SolidStateChemistryTuePM107] OS

EXPLORING AND PROPERTY ENHANCING OF INORGANIC FUNCTIONAL COMPOUNDS

Ling Chen¹; ¹Beijing Normal University, Beijing, China;
Paper ID: 382

15:40 BREAK

| | |
|--|---|
| SESSION: SolidStateChemistryTuePM2-R4 | Poepelmeier International Symposium (3rd Intl Symp on Solid State Chemistry for Applications & Sustainable Development) |
| Tue. 28 Nov. 2023 / Room: Dreams 4 | |
| Session Chairs: Alexander Norquist ; Session Monitor: TBA | |

15:55: [SolidStateChemistryTuePM209] OS

NOVEL SYNTHESIS AND OXYGEN REDOX CHEMISTRY IN FE-BASED, LI-ION CATHODE MATERIALS.

Michael Hayward¹; ¹University of Oxford, Oxford, United Kingdom;
Paper ID: 259

16:20: [SolidStateChemistryTuePM210] OS

STRAINED TUNED STRUCTURES AND FUNCTIONS IN MIXED ANION COMPOUNDS

Hiroshi Kageyama¹; ¹Kyoto University, Kyoto, Japan;
Paper ID: 74

16:45: [SolidStateChemistryTuePM211] OS

SYSTEMATIC CHARGE DISTRIBUTION CHANGES IN Bi, Pb-3D TRANSITION METAL PEROVSKITE OXIDES

Masaki Azuma¹; ¹Tokyo Institute of Technology, Yokohama, Japan;
Paper ID: 512

17:10: [SolidStateChemistryTuePM212] OL

ACHIEVING WELL-BALANCE IN “TWO CONTRADICTIONS” OF DEEP-ULTRAVIOLET NONLINEAR OPTICAL CRYSTALS

Hongwei Yu¹; ¹Tianjin University of Technology, Tianjin(天津), China;
Paper ID: 258

17:35 BREAK

SESSION:
SolidStateChemistryTuePM3-R4

**Poepelmeier International
Symposium**(3rd Intl Symp on **Solid State
Chemistry** for Applications & Sustainable
Development)

Tue. 28 Nov. 2023 / Room: **Dreams 4**

Session Chairs: Hongcheng **Lu**; Session Monitor: TBA

17:50: [SolidStateChemistryTuePM313] OS

**POSITION-SPACE REPRESENTATION OF CHEMICAL BONDING IN
INTERMETALLIC COMPOUNDS: ACHIEVMENTS AND CHALLENGES**

Yuri Grin¹; Frank R. Wagner¹; ¹Max-Planck-Institut für Chemische Physik fester Stoffe,
Dresden, Germany;

Paper ID: 337

18:15: [SolidStateChemistryTuePM314] OS

THE CRYSTAL STRUCTURE OF CARBONIC ACID

Richard Dronskowski¹; ¹RWTH Aachen University, 52056 Aachen, Germany;

Paper ID: 260

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:
AdvancedMaterialsTueAM-R5

7th Intl Symposium on New & **Advanced
Materials** and Technologies for Energy,
Environment, Health and Sustainable
Development

Tue. 28 Nov. 2023 / Room: **Heliconia**

Session Chairs: Fernand **Marquis**; Daniel **Kanzler**; Session Monitor: TBA

11:30: [AdvancedMaterialsTueAM01] OS Plenary

**NEW AND ADVANCED MATERIALS AND TECHNOLOGIES AND THE
SUSTAINABILITY FRAMEWORK**

Fernand Marquis¹; ¹Integrated Materials Technologies and Systems (IMTS), United
States;

Paper ID: 339

11:55: [AdvancedMaterialsTueAM02] OS Keynote

**SUSTAINABILITY - A NEED, NOT A CHOICE: WHAT WE HAVE LEARNED FROM
THE LAST 50 YEARS AND WHY RELIABLE INSPECTION IS THE SOLUTIONS**

Daniel Kanzler¹; ¹Applied Validation of NDT, Berlin, Germany;

Paper ID: 65

12:20: [AdvancedMaterialsTueAM03] OS

EFFECT OF STRUCTURE ON THE FRACTURE MECHANISM OF Al_xCoCrFeNi-BASED HIGH ENTROPY ALLOYS

Malgorzata Gradzka-Dahlke¹; Marzena Tokarewicz¹; Katarzyna Recko²; Wojciech J. Nowak³; Mariusz Walczak⁴; ¹Bialystok University of Technology, Bialystok, Poland, Bialystok, Poland; ²Faculty of Physics, University of Bialystok, Bialystok, Poland, Bialystok, Poland; ³Faculty of Mechanical Engineering and Aeronautics, Rzeszow University of Technology, Rzeszow, Poland, Rzeszow, Poland; ⁴Mechanical Faculty, Lublin University of Technology, Lublin, Poland, Lublin, Poland;
Paper ID: 323

12:45: [AdvancedMaterialsTueAM04] OS

EFFECT OF DIETARY AND FEED ADDITIVES BASED ON POLYVALENT NANODISPERSED IRON OXIDES OBTAINED BY ELECTROEROSIVE DISPERSION ON HUMAN HEALTH AND ANIMAL

Tetiana Prikhna¹; Mykola Monastyrov²; Valeriy Shatilo³; Fernand Marquis⁴; ¹V. Bakul Institute NASU, Kiev, Ukraine; ²Open International University of Human Development Ukraine, Kiev, Ukraine; ³D.F. Chebotaryov Institute of Gerontology of the National Academy of Medical Sciences of Ukraine, Kyiv, Ukraine; ⁴Integrated Materials Technologies and Systems (IMTS), United States;
Paper ID: 416

13:10 LUNCH

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| SESSION: AdvancedMaterialsTuePM1-R5 | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| Tue. 28 Nov. 2023 / Room: Heliconia | |
| Session Chairs: Andreas Diegeler ; Janusz Lipkowski ; Session Monitor: TBA | |

14:00: [AdvancedMaterialsTuePM105] OS Keynote

TECHNOLOGICAL ISSUES OF CLATHRATE INCLUSION PHENOMENA

Janusz Lipkowski¹; ¹Cardinal Stefan Wyszyński University in Warsaw, Warszawa, Poland;
Paper ID: 295

14:25: [AdvancedMaterialsTuePM106] OS

DEVELOPMENT OF PHASE CHANGE MATERIAL INTEGRATED ORIENTED STRAND BOARD FOR THERMAL ENERGY STORAGE

Sanjeev Khanna¹; Layla M. Hasan²; ¹University of Missouri, Columbia, United States; ²University of Mustansiriyah, Baghdad, Iraq;
Paper ID: 3

14:50: [AdvancedMaterialsTuePM107] OS

SYNTHESIS OF BISCOUMARINS VIA REACTIONS OF CONJUGATE ADDITION

Rositca Nikolova¹; ¹University of Sofia, Sofia, Bulgaria;
Paper ID: 242

15:15: [AdvancedMaterialsTuePM108] OS Keynote

MATERIALS MEET CLIMATE – GLOBAL CHALLENGES TO SAVE OUR PLANET FOR FUTURE GENERATIONS

Andreas Diegeler¹; ¹Fraunhofer ISC, Wertheim, Germany;
Paper ID: 213

15:40 BREAK

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|---|--|
| SESSION: AdvancedMaterialsTuePM2-R5 | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| Tue. 28 Nov. 2023 / Room: Heliconia | |
| <u>Session Chairs:</u> Zhen Chen ; Wael Zatar ; <u>Session Monitor:</u> TBA | |

15:55: [AdvancedMaterialsTuePM209] OS Invited

INSPECTION AND NON-DESTRUCTIVE EVALUATION OF IMPERFECTIONS IN STRUCTURALLY RETROFITTED REINFORCED CONCRETE ASSETS USING FIBER REINFORCED POLYMERS

Wael Zatar¹; ¹Marshall University, Huntington, United States;
Paper ID: 401

16:20: [AdvancedMaterialsTuePM210] OS

ARCHITECTURE OF HIGH EFFICIENCY ELECTRIC MOTORS

Julio Teixeira¹; **Marcos De Campos**²; ¹UFABC, Santo André, Brazil; ²UFF - Federal Fluminense University, Volta Redonda, Brazil;
Paper ID: 391

16:45: [AdvancedMaterialsTuePM211] OS

SYNTHESIS AND CHARACTERIZATION OF ECOLOGICAL CEMENT USING SANSEVIERIA TRIFASCIATA FIBER AS REINFORCEMENT MATERIAL

Fernanda A Sampaio Da Silva¹; Amanda Fonseca¹; Bonifácio De Oliveira Fialho¹; Ingrid R De Lima¹; **Marcos De Campos**²; ¹Federal Fluminense University, Volta Redonda, Brazil; ²UFF - Federal Fluminense University, Volta Redonda, Brazil;
Paper ID: 189

17:10: [AdvancedMaterialsTuePM212] OS Keynote

RECENT ADVANCES IN UNDERSTANDING THE POROUS INTERFACIAL EFFECT ON MULTISCALE FAILURE EVOLUTION IN SHOCKED METALLIC FOAM ASSEMBLY

Zhen Chen¹; ¹University of Missouri, Columbia, United States;
Paper ID: 168

17:35 BREAK

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|--|--|
| SESSION: AdvancedMaterialsTuePM3-R5 | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| Tue. 28 Nov. 2023 / Room: Heliconia | |
| <u>Session Chairs:</u> Marcos De Campos ; <u>Session Monitor:</u> TBA | |

17:50: [AdvancedMaterialsTuePM313] OS

SYNTHESIS AND CHARACTERIZATION OF FERROUS NANOPARTICLES FROM MINT EXTRACT

Fernanda A Sampaio Da Silva¹; Arthur Coelho Abrantes¹; Ingrid R De Lima¹; Bonifácio De Oliveira Fialho¹; **Marcos De Campos**²; ¹Federal Fluminense University, Volta Redonda, Brazil; ²UFF - Federal Fluminense University, Volta Redonda, Brazil; Paper ID: 188

18:15: [AdvancedMaterialsTuePM314] OS

THEORETICAL INSIGHTS INTO SUBSTITUTION EFFECTS ON THE TWO HETEROCYCLIC THIOPHENE AND SILICON PENTADIENE DITHIENOSILOLES (DTS)

Angyang Yu¹; ¹Jilin Agricultural University; Changchun; China. 130118, Changchun, China; Paper ID: 166

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

| | |
|---|---|
| SESSION: BatteryTueAM-R6 | Kumar international Symposium (8th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling) |
| Tue. 28 Nov. 2023 / Room: Orchid | |
| <u>Session Chairs:</u> Athan Fox ; Claudio Capiglia ; <u>Session Monitor:</u> TBA | |

11:30: [BatteryTueAM01] OS Plenary

SUSTAINABLE BATTERY REVOLUTION PART I

Vasant Kumar¹; ¹University of Cambridge, Cambridge, United Kingdom; Paper ID: 39

11:55: [BatteryTueAM02] OS

SUSTAINABLE BATTERY REVOLUTION PART II

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

Paper ID: 40

12:20: [BatteryTueAM03] OS Invited

A STUDY ON THE CHEMICAL AND ELECTROCHEMICAL STABILITY OF SULFIDE BASED SOLID ELECTROLYTES USING X-RAY ANALYTICAL TECHNIQUES

Jae-Ho Park¹; Jiwon Jeong¹; Da-Seul Han²; Eun Seong Kim¹; Jun Tae Kim¹; Hun-Gi Jung¹; Woo Young Yoon³; Kyung-Wan Nam²; **Kyung Yoon Chung**¹; ¹Korea Institute of Science and Technology, Seoul, South Korea; ²Dongguk University-Seoul, Seoul, South Korea; ³Korea University, Seoul, South Korea;
Paper ID: 108

12:45: [BatteryTueAM04] OS Invited

IN SEARCH OF SUSTAINABLE ZINC AND ALUMINIUM BATTERIES

Abhishek Lahiri¹; ¹Brunel University London, Uxbridge, United Kingdom;
Paper ID: 135

13:10 LUNCH

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|---|--|
| SESSION: BatteryTuePM1-R6 | Kumar international Symposium (8th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling) |
| Tue. 28 Nov. 2023 / Room: Orchid | |
| <u>Session Chairs:</u> Amr Henni ; Hyun-Kyung Kim ; <u>Session Monitor:</u> TBA | |

14:00: [BatteryTuePM105] OS

UPCYCLING LEAD-ACID BATTERY ACTIVE MATERIALS - KUMAR STYLE

Athan Fox¹; ¹Ever Resource Ltd, Cambridge, United Kingdom;
Paper ID: 117

14:25: [BatteryTuePM106] OS

SOLUBILITY MEASUREMENTS AND MODELING OF CO₂ AND C₂H₆ IN THREE FSI-BASED IONIC LIQUIDS

Amr Henni¹; ¹University of Regina, Regina, Canada;
Paper ID: 344

14:50: [BatteryTuePM107] OS

DEVELOPMENT OF HETEROSTRUCTURED ANODE MATERIALS FOR SODIUM-ION BATTERIES

Sang-Ok Kim¹; ¹Korea Institute of Science and Technology, Seoul, South Korea;
Paper ID: 109

15:15: [BatteryTuePM108] OS

FUTURE PERSPECTIVES FOR SUSTAINABLE RECYCLING OF LABs AND LIBs

M. Seref Sonmez¹; ¹Istanbul Technical University, Istanbul, Turkey;
Paper ID: 194

15:40 BREAK

| | |
|--|---|
| SESSION: BatteryTuePM2-R6 | Kumar international Symposium (8th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling) |
| Tue. 28 Nov. 2023 / Room: Orchid | |
| Session Chairs: Claudio Capiglia ; Satheesh Krishnamurthy ; Session Monitor: TBA | |

15:55: [BatteryTuePM209] OS Keynote

APPLICATION OF AI/ML IN THE BATTERY INDUSTRY

Himanshu Paliwal¹; Alhad Parashtekar¹; Nithin Reddy¹; Pawan Kumar¹; Astitva Mishra¹; **Claudio Capiglia**²; ¹Reliance, Mumbai, India; ²Reliance Industries, Mumbai, India;

Paper ID: 397

16:20: [BatteryTuePM210] OS

PRINTED BATTERIES FOR THIN ENERGY AND FLEXIBLE IoT – A MODEL SYSTEM FOR IN-SITU OBSERVATION OF ELECTRODE/ELECTROLYTE INTERACTION DYNAMICS

Pritesh Hiralal¹; Shiqiang Luo²; Shaobin Zhao²; Karolina Spalek¹; Dilek Ozgit Butler³; Jakub Drnec⁴; **Gehan Amaratunga**⁵; ¹Zinergy UK Ltd., Cambridge, United Kingdom; ²Zinergy Shenzhen Ltd., Shenzhen, China; ³Zinergy UK Ltd, Cambridge, United Kingdom; ⁴European Synchrotron Radiation facility, Grenoble, France; ⁵Zinergy UK and Zhejiang University, Cambridge, United Kingdom;

Paper ID: 354

16:45: [BatteryTuePM211] OS

INTERFACIAL MODIFICATION STRATEGIES OF ZINC ANODE FOR HIGHLY REVERSIBLE AQUEOUS ZINC ION SECONDARY BATTERIES

Hyung-Seok Kim¹; ¹Korea Institute of Science and Technology, Seoul, South Korea; Paper ID: 234

17:10: [BatteryTuePM212] OS

SUSTAINABLE RECOVERY, SURFACE CHEMICAL ENGINEERING, AND UPCYCLING OF SPENT GRAPHITE INTO DUAL-ION BATTERY

Satheesh Krishnamurthy¹; ¹UK National Ion Beam Centre, University of Surrey, UK, Guildford, United Kingdom;

Paper ID: 393

17:35 BREAK

SESSION:
BatteryTuePM3-R6

Kumar international Symposium (8th
Intl. Symp. on Sustainable Secondary
Battery Manufacturing & Recycling)

Tue. 28 Nov. 2023 / Room: **Orchid**

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

17:50: [BatteryTuePM313] OS

NANOPERFORATED GRAPHENE ELECTRODE MATERIALS FOR ENERGY STORAGE APPLICATIONS

Hyun-Kyung Kim¹; ¹Kangwon National University, Chuncheon, South Korea;
Paper ID: 100

18:15: [BatteryTuePM314] OL

PHASE TRANSITIONS OF HYBRID ORGANIC-INORGANIC PEROVSKITES

Wei Li¹; ¹Nankai University, Tianjin, China;
Paper ID: 448

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:
CarbonTueAM-R7

6th Intl. Symp. on Sustainable **Carbon
and Biocoke** and their Industrial
Application

Tue. 28 Nov. 2023 / Room: **Sunflower**

Session Chairs: David **Scheiblehner**; Gustav **Hanke**; Session Monitor: TBA

11:30: [CarbonTueAM01] OS Plenary

OPTIMIZATION OF BIOCOKE FOR ITS USE IN METALLURGY

Gustav Hanke¹; Juergen Antrekowitsch²; Christian Dornig¹; ¹Montanuniversität
Leoben, Leoben, Austria; ²Christian Doppler Laboratory, Leoben, Austria;
Paper ID: 112

11:55: [CarbonTueAM02] OS

**PRODUCTION OF CARBON AND HYDROGEN BY METHANE PYROLYSIS:
INFLUENCE OF DIFFERENT CATALYSTS ON PRODUCED CARBON**

David Scheiblehner¹; ¹Montanuniversität Leoben, Lehrstuhl für Nichteisenmetallurgie,
Leoben, Austria;
Paper ID: 360

12:20: [CarbonTueAM03] OS

**PRODUCTION OF CARBON AND HYDROGEN BY METHANE PYROLYSIS:
ASSESSMENT OF CHEMICAL PROPERTIES OF CARBON PRODUCED VIA
METHANE PYROLYSIS IN A LIQUID METAL BUBBLE COLUMN REACTOR**

David Neuschitzer¹; ¹Montanuniversitaet Leoben, Leoben, Austria;
Paper ID: 361

12:45: [CarbonTueAM04] OS
DEMONSTRATION PLANT FOR HYDROGEN AND CARBON PRODUCTION VIA METHANE PYROLYSIS

Stefan Wibner¹; ¹Leoben, Austria;
Paper ID: 362

13:10 LUNCH

| | |
|---|---|
| SESSION: RecyclingTuePM1-R7 Tue. 28 Nov. 2023 / Room: Sunflower Session Chairs: Florian Kongoli ; Juergen Antrekowitsch ; Session Monitor: TBA | 9th Intl. Symp. on Sustainable Materials Recycling Processes & Products |
|---|---|

14:00: [RecyclingTuePM105] OS Plenary
ZERO WASTE PROCESSING OF ZINC CONTAINING SLAGS FROM LEAD INDUSTRY
Juergen Antrekowitsch¹; ¹Christian Doppler Laboratory, Leoben, Austria;
Paper ID: 368

14:25: [RecyclingTuePM106] OS Plenary
CONTROL AND AUTOMATION OF ROTARY KILN
Florian Kongoli¹; ¹FLOGEN Technologies, Mont-Royal, Canada;
Paper ID: 498

14:50: [RecyclingTuePM107] OS
PLANT AND MINERAL WASTE-BASED NEW MATERIALS FOR USE IN HYDRO- AND PYROMETALLURGICAL PROCESSES
Svetlana Yefremova¹; Askhat Kablanbekov²; Baimakhan Satbaev³; Feruza Berdikulova¹; Nurgali Shalabaev⁴; Sergey Yermishin¹; Serik Satbaev³; Alma Terlikbayeva¹; Abdurassul Zharmenov¹; ¹National Center on Complex Processing of Mineral Raw Materials of the Republic of Kazakhstan RSE, Almaty, Kazakhstan; ²Kazakh-British Technical University, Almaty, Kazakhstan; ³Astana Branch of National Center on Complex Processing of Mineral Raw Materials of the Republic of Kazakhstan RSE, Astana, Kazakhstan; ⁴Abylkas Saginov Karaganda Technical University, Karaganda, Kazakhstan;
Paper ID: 209

15:15: [RecyclingTuePM108] OS
NEW BIOMATERIALS MADE BY DIFFERENT ORIGIN GELATINS FOR SKIN WOUND HEALING
Carmen Gaidau¹; Maria Rapa²; ¹R&D National Institute, Bucharest, Romania; ²POLITEHNICA University of Bucharest, Bucharest, Romania;
Paper ID: 93

15:40 BREAK

| | |
|--|---|
| SESSION: Biochar_CementTuePM2-R7 | 8th International Symposium on Sustainable Biochar, Cement and Concrete Production and Utilization |
| Tue. 28 Nov. 2023 / Room: Sunflower | |
| Session Chairs: Andrej Ivanič ; Mauro Giorcelli ; Session Monitor: TBA | |

15:55: [Biochar_CementTuePM209] OS
BIOCHAR: A TSUNAMI OF CARBON OPPORTUNITIES
Mauro Giorcelli¹; ¹Politecnico di Torino, Italy, Italy;
Paper ID: 383

16:20: [Biochar_CementTuePM210] OS
DESIGN AND PERFORMANCE OF LOAD-BEARING CONCRETE CONTAINING WASTE TIRE RUBBER AS A PARTIAL REPLACEMENT FOR FINE AGGREGATE
Andrej Ivanič¹; Samo Lubej²; ¹University of Maribor, Maribor, Slovenia; ²Faculty of civil engineering, transportational engineering and architecture, University of Maribor, Maribor, Slovenia;
Paper ID: 225

16:45: [Biochar_CementTuePM211] OS
TRANSFORMING AGRICULTURAL WASTE INTO SUSTAINABLE BIOCHAR PRODUCTS IN MEXICO: AN INDUSTRY PERSPECTIVE
Luisa Marin De Block¹; ¹General Biochar Systems and Instituto Latinoamericano del Biochar, Miguel Hidalgo, Mexico;
Paper ID: 455

17:10: [Biochar_CementTuePM212] OL
EFFECTS OF BIOCHAR AND ACCELERATED CARBONATION ON THE MICROSTRUCTURE, MECHANICAL PROPERTIES, CARBON CAPTURE OF LIMESTONE CALCINED CLAY CONCRETE
Harn Wei Kua¹; Jeremy Jun Hao Teo²; Abhimanyu Goel²; ¹National University of Singapore, Singapore, Singapore; ²Department of the Built Environment, College of Design & Engineering, NUS, Singapore, Singapore;
Paper ID: 467

17:35 BREAK

08:00 SUMMIT PLENARY
11:10 BREAK

SESSION:
GeochemistryTueAM-R8

Navrotsky International Symposium
(2nd Intl. symp. on **Geochemistry** for
Sustainable Development)

Tue. 28 Nov. 2023 / Room: **Coral Reef**

Session Chairs: **Wenhao Sun**; **Manisha Rane-Fondacaro**; Session Monitor: TBA

11:30: [GeochemistryTueAM01] OS Plenary

THE MATERIALS CYCLE, SUSTAINABILITY, AND THERMODYNAMICS

Alexandra Navrotsky¹; ¹Arizona State University, Phoenix, United States;
Paper ID: 58

11:55: [GeochemistryTueAM02] OS Keynote

**EXPANDING RENEWABLE ENERGY MICROGRIDS TO PRODUCE CHEAPEST
ELECTRICITY AND GREEN HYDROGEN - PART 1**

Manisha Rane-Fondacaro¹; ¹Soul-Led Solutions LLC, Albany, United States;
Paper ID: 248

12:20: [GeochemistryTueAM03] OS Keynote

**EXPANDING RENEWABLE ENERGY MICROGRIDS TO PRODUCE CHEAPEST
ELECTRICITY AND GREEN HYDROGEN - PART 2**

Manisha Rane-Fondacaro¹; ¹Soul-Led Solutions LLC, Albany, United States;
Paper ID: 282

12:45: [GeochemistryTueAM04] OS

**ENTHALPIES OF MIXING FOR ALLOYS LIQUID BELOW ROOM TEMPERATURE
DETERMINED BY OXIDATIVE SOLUTION CALORIMETRY**

Michael Bustamante¹; **Alexandra Navrotsky**²; **Kristina Lilova**¹; **Jean-Philippe Harvey**³;
Oishi Kentaro⁴; ¹ARIZONA STATE UNIVERSITY, Tempe, United States; ²Arizona State
University, Phoenix, United States; ³Chemical Engineering Department, CRCT
Polytechnique Montréal, Montréal, Canada; ⁴Chemical Engineering Department,
Montréal, Canada;
Paper ID: 31

13:10 LUNCH

SESSION:
GeochemistryTuePM1-R8

Navrotsky International Symposium
(2nd Intl. symp. on **Geochemistry** for
Sustainable Development)

Tue. 28 Nov. 2023 / Room: **Coral Reef**

Session Chairs: **Megan Householder**; **Zi-Kui Liu**; Session Monitor: TBA

14:00: [GeochemistryTuePM105] OS

**MEASUREMENT OF NANOPARTICLE SURFACE ENERGIES WITH APPLICATION
TO NUCLEATION AND CONDENSATION IN EXOPLANET ATMOSPHERES**

Megan Householder¹; **Alexandra Navrotsky**¹; **Kristina Lilova**²; ¹Arizona State

University, Phoenix, United States; ²ARIZONA STATE UNIVERSITY, Tempe, United States;
Paper ID: 52

14:25: [GeochemistryTuePM106] OS Keynote

QUANTUM PREDICTIVE THEORIES THROUGH INTEGRATION OF QUANTUM, STATISTICAL, AND IRREVERSIBLE THERMODYNAMICS

Zi-Kui Liu¹; ¹PENN STATE UNIV, UNIVERSITY PARK, United States;

Paper ID: 98

14:50: [GeochemistryTuePM107] OS

LITHIUM-ION BATTERIES AND THEIR MATERIALS STUDIED BY CALORIMETRY AND COMPUTATIONAL THERMODYNAMICS

Hans Juergen Seifert¹; Julian Gebauer¹; Peter Franke¹; Philipp Finster¹; Carlos Ziebert¹; Magnus Rohde¹; ¹Karlsruhe Institute of Technology, KIT, 76344 Eggenstein-Leopoldshafen, Germany;

Paper ID: 237

15:15: [GeochemistryTuePM108] OL

THERMODYNAMIC INSIGHT INTO COMPLEX OXIDES OF MARTIAN RELEVANCE

Christophe Drouet¹; Alexandra Navrotsky²; ¹CIRIMAT Institute, Toulouse, France;

²Arizona State University, Phoenix, United States;

Paper ID: 458

15:40 BREAK

| | |
|--|--|
| SESSION: GeochemistryTuePM2-R8 | Navrotsky International Symposium (2nd Intl. symp. on Geochemistry for Sustainable Development) |
| Tue. 28 Nov. 2023 / Room: Coral Reef | |
| Session Chairs: Qijun Hong ; Fabienne Trolard ; Session Monitor: TBA | |

15:55: [GeochemistryTuePM209] OS

MINERAL MOISSANITE (SiC), AS AN IMPORTANT COMPONENT OF SI-O-C PATHWAY FOR UNDERSTANDING THE GLOBAL CARBON CYCLING

Larissa Dobrzhinetskaya¹; Earl O'Bannon²; Camelia Stan²; ¹University of California at Riverside, Riverside, United States; ²Lawrence Livermore National Laboratory, Livermore, United States;

Paper ID: 402

16:20: [GeochemistryTuePM210] OS

DEEP LEARNING FOR LARGE-SCALE PREDICTION OF MELTING TEMPERATURE AND MATERIALS PROPERTIES

Qijun Hong¹; ¹Arizona State University, Tempe, United States;

Paper ID: 319

16:45: [GeochemistryTuePM211] OS

REACTION, REDOX POTENTIAL AND KINETICS IN ENVIRONMENTS: THE PARTICULAR KEY ROLE OF LAYERED DOUBLE HYDROXIDES

Fabienne Trolard¹; ¹Institut National de la Recherche Agronomique et pour l'Environnement (INRAE), Avignon, France;
Paper ID: 327

17:10: [GeochemistryTuePM212] OS

HIGH TEMPERATURE THERMOCHEMISTRY FROM EXPERIMENT, AB INITIO, AND MACHINE LEARNING

Sergey Ushakov¹; **Qijun Hong**¹; **Alexandra Navrotsky**²; ¹Arizona State University, Tempe, United States; ²Arizona State University, Phoenix, United States;
Paper ID: 14

17:35 BREAK

| | |
|---|--|
| SESSION: GeochemistryTuePM3-R8 | Navrotsky International Symposium (2nd Intl. symp. on Geochemistry for Sustainable Development) |
| Tue. 28 Nov. 2023 / Room: Coral Reef | |
| <u>Session Chairs:</u> Larissa Dobrzhinetskaya ; <u>Session Monitor:</u> TBA | |

17:50: [GeochemistryTuePM313] OS Plenary

INTEGRATION OF QUANTUM, STATISTICAL, AND IRREVERSIBLE THERMODYNAMICS IN A COHERENT FRAMEWORK

Zi-Kui Liu¹; ¹PENN STATE UNIV, UNIVERSITY PARK, United States;
Paper ID: 217

18:15: [GeochemistryTuePM314] OL

BIG, BOLD, AND HOT! HOW A PROFESSIONAL SOCIETY IS INFLUENCING PERCEPTIONS OF REFRACTORIES, THERMODYNAMICS, AND INDUSTRIAL SUSTAINABILITY

Eileen De Guire¹; Mark Mecklenborg¹; Amanda Engen²; ¹The American Ceramic Society, Westerville, United States; ²Ceramic and Glass Industry Foundation, Westerville, United States;
Paper ID: 486

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:
MathematicsTueAM-R9

6th Intl. Symp. on Sustainable
Mathematics Applications

Tue. 28 Nov. 2023 / Room: **Showroom**

Session Chairs: Ruggero Maria **Santilli**; Mike **Mikalajunas**; Session Monitor: TBA

11:30: [MathematicsTueAM01] OS Plenary

AN INTRODUCTION TO REVERSIBLE LIE-ISOTOPIC MATHEMATICS FOR STABLE NUCLEAR STRUCTURES

Ruggero Maria Santilli¹; ¹Hadronic Technologies Corporation, Palm Harbor, United States;

Paper ID: 263

11:55: [MathematicsTueAM02] OS

AN INTRODUCTION TO IRREVERSIBLE LIE-ADMISSIBLE MATHEMATICS FOR CONTROLLED NUCLEAR FUSIONS

Ruggero Maria Santilli¹; ¹Hadronic Technologies Corporation, Palm Harbor, United States;

Paper ID: 265

12:20: [MathematicsTueAM03] OL

SCIENTIFIC AND RELIGIOUS IMPLICATIONS OF SANTILLI ISODETERMINISM FOR STRONG INTERACTIONS

Arun Muktibodh¹; ¹Mohota College of Science, Nagpur, India;

Paper ID: 369

12:45: [MathematicsTueAM04] OL Invited

SANTILLI ISOREDSHIFT: NEW EDGE TOWARDS COSMOLOGICAL IMPLICATIONS IN RECENT ERA

Ritesh Kohale¹; ¹Sant Gadge Maharaj mahavidyalaya, Nagpur, India;

Paper ID: 452

13:10 LUNCH

SESSION:
PhysicsTuePM1-R9

2nd Intl Symp on **Physics**, Technology &
Interdisciplinary Research for Sustainable
Development

Tue. 28 Nov. 2023 / Room: **Showroom**

Session Chairs: Peter **Rowlands**; Megumi **Hirota**; Session Monitor: TBA

14:00: [PhysicsTuePM105] OS Plenary

A ROUTE TOWARDS GRAND UNIFICATION

Peter Rowlands¹; ¹University of Liverpool, Liverpool, United Kingdom;

Paper ID: 356

14:25: [PhysicsTuePM106] OS

**NOVEL APPLICATION OF HIGH TEMPERATURE SUPERCONDUCTING CABLE
PRESENTING A NEW CHALLENGE**

Megumi Hirota¹; ¹Naval Ship M&UEP R.C., Non-Profit Organization, Bunkyo, Japan;
Paper ID: 45

14:50: [PhysicsTuePM107] OL

**EVALUATION OF TWO HYPOTHETICAL FUTURE SCENARIOS FOLLOWING THE
CLOSURE OF NATURAL GAS-FIRED PLANTS IN ITALY**

Fedora Quattrocchi¹; Simone Gallo²; **Luca Rosati**²; Angelo Spena²; ¹University Rome
2 Tor Vergata, Assisa, Italy; ²University of Rome Tor Vergata, Rome, Italy;
Paper ID: 275

15:15: [PhysicsTuePM108] OS

**SUSTAINABLE DEVELOPMENT IN CONTEXT OF ENVIRONMENTAL ISSUES AND
GLOBAL WARMING**

Sukhmander Singh¹; ¹Santa Clara University, Santa Clara, United States;
Paper ID: 124

15:40 BREAK

| | |
|--|---|
| SESSION: MathematicsTuePM2-R9 | 6th Intl. Symp. on Sustainable Mathematics Applications |
| Tue. 28 Nov. 2023 / Room: Showroom | |
| Session Chairs: Ruggero Maria Santilli ; Mike Mikalajunas ; <u>Session Monitor</u> : TBA | |

15:55: [MathematicsTuePM209] OS

**THE USE OF A NUMERICALLY CONTROLLED SYSTEM OF ANALYTICS TABLE
FOR SOLVING VARIOUS CASES OF THE NAVIER-STOKES EQUATIONS IN
TERMS OF GENERALIZED ANALYTICAL SOLUTIONS ONLY**

Mike Mikalajunas¹; ¹CIME, iLe Perrot, Canada;
Paper ID: 118

16:20: [MathematicsTuePM210] OS

**UNIVERSAL ALGEBRAIC THEORY AND UNIFIED THEORY OF ANALYTICAL
INTEGRATION - WORKSHOP #1**

Mike Mikalajunas¹; ¹CIME, iLe Perrot, Canada;
Paper ID: 487

16:45: [MathematicsTuePM211] OS

**UNIVERSAL ALGEBRAIC THEORY AND UNIFIED THEORY OF ANALYTICAL
INTEGRATION - WORKSHOP #2**

Mike Mikalajunas¹; ¹CIME, iLe Perrot, Canada;
Paper ID: 488

17:10: [MathematicsTuePM212] OS

UNIVERSAL ALGEBRAIC THEORY AND UNIFIED THEORY OF ANALYTICAL

INTEGRATION - WORKSHOP #3

Mike Mikalajunas¹; ¹CIME, iLe Perrot, Canada;
Paper ID: 489

17:35 BREAK

| | |
|--|---|
| SESSION: MathematicsTuePM3-R9 | 6th Intl. Symp. on Sustainable Mathematics Applications |
| Tue. 28 Nov. 2023 / Room: Showroom | |
| Session Chairs: Ruggero Maria Santilli ; Session Monitor: TBA | |

17:50: [MathematicsTuePM313] OS UNIVERSAL ALGEBRAIC THEORY AND UNIFIED THEORY OF ANALYTICAL INTEGRATION - WORKSHOP #4

Mike Mikalajunas¹; ¹CIME, iLe Perrot, Canada;
Paper ID: 490

18:15: [MathematicsTuePM314] OS UNIVERSAL ALGEBRAIC THEORY AND UNIFIED THEORY OF ANALYTICAL INTEGRATION - WORKSHOP #5

Mike Mikalajunas¹; ¹CIME, iLe Perrot, Canada;
Paper ID: 491

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

| | |
|---|---|
| SESSION: GlassTueAM-R10 | Durán International Symposium on Sustainable Glass Processing and Applications |
| Tue. 28 Nov. 2023 / Room: Boardroom | |
| Session Chairs: Erik Muijsenberg ; John Parker ; Session Monitor: TBA | |

11:30: [GlassTueAM01] OS Plenary
THE INFINITE LIVES OF GLASS
Alicia Duran¹; ¹Instituto de Cerámica y Vidrio (CSIC), Madrid, Spain;
Paper ID: 186

11:55: [GlassTueAM02] OS
THE AGE OF GLASS
Alicia Duran¹; John Parker²; ¹Instituto de Cerámica y Vidrio (CSIC), Madrid, Spain;
²University of Sheffield, England, United Kingdom;
Paper ID: 493

12:20: [GlassTueAM03] OS Plenary

THE FIRST MODERN HYBRID OXY-GAS FURNACE WITH 59% GREEN ELECTRIC ENERGY IN THE WORLD, PROGRESSING ON THE PATH TO DECARBONIZATION - Part 1

Erik Muijsenberg¹; ¹Glass Service Inc, Zlin, Czech Republic;
Paper ID: 212

12:45: [GlassTueAM04] OS

THE FIRST MODERN HYBRID OXY-GAS FURNACE WITH 59% GREEN ELECTRIC ENERGY IN THE WORLD, PROGRESSING ON THE PATH TO DECARBONIZATION - PART 2

Erik Muijsenberg¹; ¹Glass Service Inc, Zlin, Czech Republic;
Paper ID: 496

13:10 LUNCH

| | |
|---|---|
| SESSION: GlassTuePM1-R10 | Durán International Symposium on Sustainable Glass Processing and Applications |
| Tue. 28 Nov. 2023 / Room: Boardroom | |
| Session Chairs: John Parker ; Bertrand Cazes ; Session Monitor: TBA | |

14:00: [GlassTuePM105] OS Plenary

THE ROLE OF EDUCATION IN SUSTAINABILITY

John Parker¹; ¹University of Sheffield, England, United Kingdom;
Paper ID: 89

14:25: [GlassTuePM106] OS

2050 FLAT GLASS INDUSTRY CLIMATE NEUTRALITY VISION: THE START OF THE JOURNEY

Bertrand Cazes¹; ¹Glass for Europe, Brussels, Belgium;
Paper ID: 13

14:50: [GlassTuePM107] OS

SUSTAINABILITY REQUIREMENTS AND INDUSTRY: ŞİŞECAM'S SUSTAINABILITY APPROACH AS AN EXAMPLE

Ali Efe Çağlayan¹; ¹Sisecam, Istanbul, Turkey;
Paper ID: 273

15:15: [GlassTuePM108] OS

WHAT THE GLASS INDUSTRY CAN DO TO DECARBONISE

Stuart Hakes¹; ¹FIC, British Columbia, United Kingdom;
Paper ID: 418

15:40 BREAK

SESSION:
GlassTuePM2-R10

Durán International Symposium on
Sustainable Glass Processing and
Applications

Tue. 28 Nov. 2023 / Room: **Boardroom**

Session Chairs: Stephen **Whettingsteel**; Urmilla **Jokhu-Sowell**; Session Monitor:
TBA

15:55: [GlassTuePM209] OS

**DEVELOPING A COST EFFECTIVE PHARMACEUTICAL GLASS
DECONSTRUCTION SYSTEM**

Stephen Whettingsteel¹; ¹Krysteline Technologies Ltd, Southampton, United Kingdom;

Paper ID: 48

16:20: [GlassTuePM210] OS

ARCHITECTURAL GLASS FOR IMPROVED BUILDING RESILIENCY

Urmilla Jokhu-Sowell¹; Karen Wegert¹; Georgia Scalfano¹; ¹National Glass Association, Vienna, United States;

Paper ID: 363

16:45: [GlassTuePM211] OL

**IMMOBILIZATION OF SIMULATED RADIOACTIVE CESIUM VIA ALKALINE
ACTIVATION OF WASTE PHARMACEUTICAL GLASS**

Diana Lago¹; Giulia Tameni²; Federico Zorzi³; Jozef Kraxner⁴; Dušan Galusek⁵; Enrico Bernardo²; ¹FunGlass – Centre for Functional and Surface Functionalized Glass - Alexander Dubček University of Trenčín, Trenčín, Slovakia, Slovakia; ²Department of Industrial Engineering, University of Padova, Italy, Padova, Italy; ³Centro di Analisi e Servizi per la Certificazione (CEASC), University of Padova, University of Padova, Italy, Padova, Italy; ⁴FunGlass, Alexander Dubcek University of Trenčín, Trenčín, Slovakia; ⁵FunGlass – Centre for Functional and Surface Functionalized Glass, Alexander Dubček University of Trenčín. Joint Glass Centre of the IIC SAS, TnUAD and FChFT STU., Trenčín, Slovakia, Slovakia;

Paper ID: 470

17:10: [GlassTuePM212] OS

CHEMICAL TREATMENTS FOR THE SUSTAINABILITY OF GLASS

Refika Budakoğlu¹; ¹T. Şişe ve Cam Fabrikaları A.Ş. Şişecam Science Technology and Design Center, Kocaeli, Turkey;

Paper ID: 309

17:35 BREAK

SESSION:
GlassTuePM3-R10

Durán International Symposium on
Sustainable Glass Processing and
Applications

Tue. 28 Nov. 2023 / Room: **Boardroom**

Session Chairs: Andreas **Diegeler**; Session Monitor: TBA

17:50: [GlassTuePM313] OS

DIGITAL MATERIAL DATA-BASED GLASS SCREENING FOR THE SYSTEMATIC DEVELOPMENT OF NEW GLASSES

Andreas Diegeler¹; Martin Kilo²; Ralf Müller³; Altair Contreras-Jaimez⁴; Tina Waurisch⁵; Stefan Reinsch⁶; ¹Director Center of Device Development, Wertheim, Germany; ²Fraunhofer ISC, Senior Scientist, Wertheim, Germany; ³BAM Berlin, Head of Division Glass, Berlin, Germany; ⁴Fraunhofer ISC, Wertheim, Germany; ⁵Scientist, BAM Berlin, Berlin, Germany; ⁶Senior Scientist, BAM Berlin, Berlin, Germany;
Paper ID: 113

18:15: [GlassTuePM314] OL

GLASS RECYCLING IN BRAZIL, THE APPLICATIONS FOR THIS MATERIAL AS A SECONDARY RAW MATERIAL AND THE CHALLENGES OF THIS CHAIN

Juliana Schunck¹; ¹MASSFIX GLASS RECYCLING, MOGI DAS CRUZES, Brazil;
Paper ID: 296

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:
EnergyTueAM-R11

8th Intl. Symp. on Sustainable **Energy Production**: Fossil; Renewables; Nuclear; Waste handling , processing, & storage for all energy production technologies; Energy conservation

Tue. 28 Nov. 2023 / Room: **DiscoRoom**

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

11:30: [EnergyTueAM01] OS Keynote

OPTIMIZING TRANSFORMER PERFORMANCE: COMBINATION OF INNOVATIVE ONLINE OIL ANALYSIS WITH MOISTURE AND ACID REMOVAL FOR PROACTIVE MAINTENANCE

Manfred Mauntz¹; Jorn Peuser¹; Charles O'Connor²; ¹cmc Instruments GmbH, Eschborn, Germany; ²Rolcon Technologies Limited, Glasgow, United Kingdom;
Paper ID: 170

11:55: [EnergyTueAM02] OS Keynote

DIGITAL OPTIMIZATION OF OIL FIELDS DISCOVERY

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Wilson José Guerra¹; ¹Gorceix Foundation, Ouro Preto, Brazil;
Paper ID: 506

12:20: [EnergyTueAM03] OS Keynote
ATOMIC HYDROGEN CAN BE GENERATED ELECTROCHEMICALLY AND EFFICIENTLY STORED ON SINGLE LAYER GRAPHENE

Dongping Zhan¹; **Alexander Oleinick**²; Irina Svir³; Zhongqun Tian⁴; **Christian Andre Amatore**⁵; ¹Department of Chemistry, Xiamen University, Xiamen, China; ²CNRS, Paris, France; ³CNRS & PSL, Paris, France; ⁴Department of Chemistry, Xiamen University, Xiamen, China; ⁵CNRS & PSL, French Academy of Sciences, Paris, France;
Paper ID: 175

12:45: [EnergyTueAM04] OS Keynote
ENERGY CHOICES AND CONSEQUENCES-2023 UPDATE

Harold Dodds¹; ¹University of Tennessee, Knoxville, United States;
Paper ID: 73

13:10 LUNCH

| | |
|--|---|
| SESSION: EnergyTuePM1-R11 | 8th Intl. Symp. on Sustainable Energy Production : Fossil; Renewables; Nuclear; Waste handling , processing, & storage for all energy production technologies; Energy conservation |
| Tue. 28 Nov. 2023 / Room: DiscoRoom | |
| Session Chairs: Manfred Mauntz ; Harold Dodds ; Session Monitor: TBA | |

14:00: [EnergyTuePM105] OL Plenary
REALIZING THE ENERGY TRANSITION AND INDUSTRIAL TRANSFORMATION ON TIME; HOW AN INTEGRATED STRATEGY CAN DELIVER DEEP GHG REDUCTION, A CIRCULAR ECONOMY AND ECONOMIC BENEFITS SIMULTANEOUSLY

Andre Faaij¹; ¹TNO, Utrecht University & University of Groningen, Utrecht, Netherlands;
Paper ID: 321

14:25: [EnergyTuePM106] OS
INVESTIGATION ON GASIFICATION OF OIL PALM FRONDS, CHALLENGES AND REMEDIES

Samson Mekbib Atnaw¹; Shaharin Anwar Sulaiman²; ¹Addis Ababa Science and Technology University, Addis Ababa, Ethiopia; ²Universiti Teknologi PETRONAS, Ipoh, Malaysia;
Paper ID: 101

14:50: [EnergyTuePM107] OL Keynote
INVESTIGATION ON CONDENSATE BLOCKING PROBLEM AND ITS SOLUTION

FOR A GAS CONDENSATE RESERVOIR

Abdollah Esmaeili¹; ¹Universidade Federal do Pará (UFPA), Belem, Brazil;
Paper ID: 35

15:15: [EnergyTuePM108] OL Keynote

GAS LIFT AND ITS EFFECTS ON OIL FIELD PRODUCTION

Laura Garzon¹; ¹Universidade Federal do Pará (UFPA), Belem, Brazil;
Paper ID: 38

15:40 BREAK

| | |
|--|---|
| SESSION: EnergyTuePM2-R11 | 8th Intl. Symp. on Sustainable Energy Production : Fossil; Renewables; Nuclear; Waste handling , processing, & storage for all energy production technologies; Energy conservation |
| Tue. 28 Nov. 2023 / Room: DiscoRoom | |
| <u>Session Chairs</u> : Manfred Mauntz ; Harold Dodds ; <u>Session Monitor</u> : TBA | |

15:55: [EnergyTuePM209] OL

WELL TEST AND ITS APPLICATION FOR A GAS CONDENSATE RESERVOIR

Abdollah Esmaeili¹; ¹Universidade Federal do Pará (UFPA), Belem, Brazil;
Paper ID: 33

16:20: [EnergyTuePM210] OL

NATURAL GAS INJECTION AND ITS EFFECT ON RESERVOIR FLUID PROPERTIES

Abdollah Esmaeili¹; ¹Universidade Federal do Pará (UFPA), Belem, Brazil;
Paper ID: 34

16:45: [EnergyTuePM211] OS

THE ROLE OF CLAY MINERALS IN THE OIL, GAS AND PETROCHEMICAL INDUSTRY

Rômulo Simões Angélica¹; ¹Universidade Federal do Pará (UFPA), Belem, Brazil;
Paper ID: 140

17:10: [EnergyTuePM212] OL

IMPORTANCE OF PROJECT MANAGEMENT AND ITS ROLE IN OIL AND GAS INDUSTRIES

Abdollah Esmaeili¹; ¹Universidade Federal do Pará (UFPA), Belem, Brazil;
Paper ID: 36

17:35 BREAK

SESSION:
EnergyTuePM3-R11

8th Intl. Symp. on Sustainable **Energy**
Production: Fossil; Renewables; Nuclear;
Waste handling , processing, & storage for
all energy production technologies; Energy
conservation

Tue. 28 Nov. 2023 / Room: **DiscoRoom**

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

17:50: [EnergyTuePM313] OS

ROLE OF RENEWABLES IN ENERGY TRANSITION AND ENERGY SECURITY

Pooja Sharma¹; ¹Department of Economics Daulat Ram College University of Delhi,
New Delhi, India;

Paper ID: 299

18:15: [EnergyTuePM314] OL

METHODS FOR PREDICTING PRODUCED SAND OF AN OIL WELL

Laura Garzon¹; ¹Universidade Federal do Pará (UFPA), Belem, Brazil;

Paper ID: 37

19:00 DINNER

Wednesday

08:00 SUMMIT PLENARY

11:10 BREAK

| | |
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| SESSION: OxidativeWedAM-R1 | Ozawa International Symposium (3rd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings) |
| Wed. 29 Nov. 2023 / Room: Dreams 1 | |
| Session Chairs: Fuhua Yang ; Eugenia Trushina ; Session Monitor: TBA | |

11:30: [OxidativeWedAM01] OS Plenary

DEVELOPMENT OF MITOCHONDRIA TARGETED THERAPEUTICS FOR NEURODEGENERATIVE DISEASES

Eugenia Trushina¹; Andrea Stojakovic¹; Sergey Trushin¹; Thi Kim Oanh Nguyen¹;
Mark Ostroo¹; ¹Mayo Clinic, Rochester, United States;
Paper ID: 345

11:55: [OxidativeWedAM02] OL Plenary

COUNTERING BACTERIAL ANTIBIOTIC RESISTANCE ON EARTH AND IN SPACE FLIGHT

A.C. Matin¹; ¹Stanford University, Stanford, United States;
Paper ID: 139

12:20: [OxidativeWedAM03] OL

THE MOLECULAR LINKS BETWEEN AGEING AND NEURODEGENERATION

Nektarios Tavernarakis¹; ¹Chair, EIT Governing Board (European Institute of
Innovation & Technology), Heraklion, Greece;
Paper ID: 450

12:45: [OxidativeWedAM04] OS

OXIDATIVE CONTRIBUTION TO CELLULAR SENESCENCE IN THE BRAIN

Julie Andersen¹; ¹Buck Institute for Research in Aging, Novato, United States;
Paper ID: 218

13:10 LUNCH

| | |
|--|---|
| SESSION: MedicineWedPM1-R1 | 2nd Intl. Symp. on Technological Innovations in Medicine for Sustainable Development |
| Wed. 29 Nov. 2023 / Room: Dreams 1 | |
| Session Chairs: Hans Leuenerger ; Gregory Knipp ; Session Monitor: TBA | |

14:00: [MedicineWedPM105] OS Plenary

THE ORGANIC SUPERCOMPUTER ABLE TO REPLICATE AS VIRTUAL PATIENT

Hans Leuenberger¹; ¹University of Basel, Switzerland Adjunct Faculty of the College of Pharmacy, Orlando, United States;

Paper ID: 63

14:25: [MedicineWedPM106] OS Keynote

DEVELOPING SUSTAINABLE, VERIFIED PEDIATRIC FORMULATIONS THAT CAN BE UTILIZED IN UNDERSERVED COMMUNITIES GLOBALLY

Gregory Knipp¹; ¹Purdue University, West Lafayette, United States;

Paper ID: 125

14:50: [MedicineWedPM107] OS

THE NUCLEAR TRANSLOCATION OF MAPKs AS A THERAPEUTIC TARGET FOR CANCER AND INFLAMMATION

Rony Seger¹; ¹Weizmann Institute of Science, Rehovot, Israel;

Paper ID: 277

15:15: [MedicineWedPM108] OS

NATURE PRESERVATION VS. TRADITIONAL CONSUMPTION OF WILD PLANTS

Abdullatif Azab¹; ¹Eastern Plants Company, Arara, Israel;

Paper ID: 278

15:40 BREAK

| | |
|---|---|
| SESSION: MedicineWedPM2-R1 | 2nd Intl. Symp. on Technological Innovations in Medicine for Sustainable Development |
| Wed. 29 Nov. 2023 / Room: Dreams 1 | |
| Session Chairs: Hans Leuenberger ; Gregory Knipp ; Session Monitor: TBA | |

15:55: [MedicineWedPM209] OS Keynote

LOCKAGE OF THE FIRST EXCITED STATE OF 198Hg

Hans Leuenberger¹; ¹University of Basel, Switzerland Adjunct Faculty of the College of Pharmacy, Orlando, United States;

Paper ID: 333

16:20: [MedicineWedPM210] OL

AUGMENTED REALITY IN NEUROSURGERY: A NEW PARADIGM FOR TRAINING

Brandon Lucke-Wold¹; ¹University of Florida, ., United States;

Paper ID: 425

16:45: [MedicineWedPM211] OL Keynote

CANCER RESEARCH IN MICROGRAVITY: EXPLORING NOVEL FRONTIERS FOR PERSONALISED MEDICINE

Detina Zalli¹; ¹University of Cambridge, Cambridge, UK, Cambridge, United Kingdom;
Paper ID: 281

17:10: [MedicineWedPM212] OL
**RECENT ADVANCES OF MAGNETIC GOLD HYBRIDS AND NANOCOMPOSITES,
AND THEIR POTENTIAL BIOLOGICAL APPLICATIONS**

Mirza Muhammad Faran Ashraf Baig¹; ¹The Hong Kong University of Science and
Technology, HKSAR, China, Hong Kong, China;
Paper ID: 439

17:35 BREAK

| | |
|---|--|
| SESSION: OxidativeWedPM3-R1 | Ozawa International Symposium (3rd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings) |
| Wed. 29 Nov. 2023 / Room: Dreams 1 | |
| Session Chairs: TBA; Session Monitor: TBA | |

17:50: [OxidativeWedPM313] OL
**MICRO-ELECTROCHEMISTRY AND RAMAN SPECTROSCOPY FOR SINGLE CELL
ANALYSIS**

Keke Hu¹; Xiang Wang¹; Chuan Liu¹; Bin Ren¹; Andrew Ewing²; Zhongqun Tian³;
¹Xiamen University, Xiamen, China; ²Gothenburg University, gothenburg, Sweden;
³Department of Chemistry, Xiamen University, Xiamen, China;
Paper ID: 447

18:15: [OxidativeWedPM314] OS
**REACTIVE NITROGEN SPECIES ARE CRITICAL THERAPEUTIC TARGETS FOR
REDUCING DELAYED THROMBOLYSIS-MEDIATED HEMORRHAGE
TRANSFORMATION AND IMPROVING THERAPEUTIC OUTCOME IN ISCHEMIC
STROKE**

Jiangang Shen¹; ¹The University of Hong Kong, Hong Kong, Hong Kong;
Paper ID: 222

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:
IronWedAM-R2

Assis International Symposium (9th Intl.
Symp. on Advanced Sustainable **Iron &
Steel Making**)

Wed. 29 Nov. 2023 / Room: **Dreams 2**

Session Chairs: Alexandro **Uliana**; Mauricio **Cota Fonseca**; Session Monitor: TBA

11:30: [IronWedAM01] OS

MICROWAVE-BASED TECHNOLOGY FOR IRON ORE PELLET DRYING

Mauricio Cota Fonseca¹; ¹SAMARCO MINERAÇÃO S.A., VITÓRIA, Brazil;
Paper ID: 307

11:55: [IronWedAM02] OS

**CONCENTRATION PROCESS OF ULTRAFINE MATERIAL AND INNOVATIVE
AGGLOMERATED CO-PRODUCT FOR STEELMAKING**

Alexandro Uliana¹; ¹Samarco Mineração S.A., Mariana (MG), Brazil;
Paper ID: 306

12:20: [IronWedAM03] OS

**CIRCULAR ECONOMY: ANALYSIS OF THE EFFECTS OF THE USE OF
RECYCLED STEEL IN THE NAVAL SECTOR**

Nathália Balzana Anacleto¹; Karolyna Gomes Dos Santos²; Paulo Assis³; ¹Programa de Pós-Graduação em Arquitetura e Urbanismo da Universidade Federal Fluminense - PPGAU-UFF, Niterói, Brazil; ²Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil; ³University of Ouro Preto / REDEMAT, Ouro Preto, Brazil;
Paper ID: 51

12:45: [IronWedAM04] OL Plenary

**SOFTWARE SYSTEM FOR MODEL BASED PROCESS CONTROL OF STEEL
REHEATING IN BATCH AND CONTINUOUS FURNACE FOR OPTIMIZING
HEATING TIME, ENERGY EFFICIENCY AND THERMAL HOMOGENIZATION**

Niloy Kumar Nath¹; Paulo Assis²; ¹JSPM's Rajarshi Shahu College of Engineering, Pune, India, Pune, India; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil;
Paper ID: 340

13:10 LUNCH

SESSION:
IronWedPM1-R2

Assis International Symposium (9th Intl.
Symp. on Advanced Sustainable **Iron &
Steel Making**)

Wed. 29 Nov. 2023 / Room: **Dreams 2**

Session Chairs: Marcos **De Campos**; Paulo **Assis**; Session Monitor: TBA

14:00: [IronWedPM105] OS

**ALTERNATIVE SLURRY TREATMENT (LANDFILL LEACHATE), A PERSPECTIVE
ON SUSTAINABLE DEVELOPMENT (1)**

Marcia Ribeiro¹; **Paulo Assis**²; Jorge Murta³; Marcelo Esteves Campos⁴;
¹Caetanópolis, Brazil; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil;
³Federal University of Ouro Preto, Ouro Preto, Brazil; ⁴UFMG, Belo Horizonte, Brazil;
Paper ID: 56

14:25: [IronWedPM106] OS

CIRCULARITY IN CIVIL CONSTRUCTION: ANALYSIS AND EVALUATION APPLIED TO EIGHT CASES IN THE STATE OF RIO DE JANEIRO

Nathália Balzana Anacleto¹; Vinicius Netto¹; ¹Programa de Pós-Graduação em Arquitetura e Urbanismo da Universidade Federal Fluminense - PPGAU-UFF, Niterói, Brazil;

Paper ID: 50

14:50: [IronWedPM107] OS

RAISE OF RENEWABLE ENERGY - SOLAR AND WIND - AND CONSEQUENCES FOR STEELMAKING

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

Paper ID: 19

15:15: [IronWedPM108] OS

THE EXPORTS OF BRAZILIAN COMPANIES ARE MORE COMPETITIVE WITH INCENTIVES AND TAX BENEFITS

Wilson Ferreira Santos Jr.¹; **Paulo Assis**²; Jorge Murta³; ¹Masonic Court of Justice of the Grand Orient of Minas Gerais, Minas Gerais, Brazil; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil; ³Federal University of Ouro Preto, Ouro Preto, Brazil;

Paper ID: 29

15:40 BREAK

| | |
|---|--|
| SESSION: IronWedPM2-R2 | Assis International Symposium (9th Intl. Symp. on Advanced Sustainable Iron & Steel Making) |
| Wed. 29 Nov. 2023 / Room: Dreams 2 | |
| Session Chairs: Paulo Assis ; Session Monitor: TBA | |

15:55: [IronWedPM209] OS

ANALYSIS OF PIG IRON DESULFURIZATION SLAG AND ALTERNATIVES FOR ITS DISPOSAL

Davi Santos¹; Paulo Pontelo²; ¹Federal University of Ouro Preto, Ouro Preto, Brazil; ²Sidertec, Sete Lagoas, Brazil;

Paper ID: 298

16:20: [IronWedPM210] OS

A NUMERICAL STUDY OF SCENARIOS FOR THE SUBSTITUTION OF PULVERIZED COAL INJECTION BY BLAST FURNACE GAS ENRICHED BY

HYDROGEN AND OXYGEN

Jose Adilson De Castro¹; Giulio Antunes De Medeiros²; Marcos De Campos¹; Leonardo Martins Da Silva³; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil; ²UFF-Programa de Pos Graduação em Engenharia Metalurgica, Volta Redonda, Brazil; ³Universidade Federal Fluminense, Volta Redonda, Brazil;
Paper ID: 69

16:45: [IronWedPM211] OS Keynote

THE USE OF HYDROGEN IN FERROALLOYMAKING

Oleg Ostrovski¹; ¹The University of New South Wales Sydney, Sydney, Australia;
Paper ID: 404

17:10: [IronWedPM212] OS

ANALYSIS FOR ASSESSING ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE IRON DAM BREAK IN MINAS GERAIS - BRAZIL

Grazielle Pessoa Do Império Borges¹; Grazielle Rocha Dos Santos²; Gilmore Antônia Da Silva³; Aníbal Da Fonseca Santiago²; ¹Universidade Federal de Ouro Preto, Ouro Preto, Brazil; ²Federal University of Ouro Preto, Ouro Preto, Brazil; ³Federal University of Ouro Preto, Viçosa, Brazil;
Paper ID: 494

17:35 BREAK

| | |
|--|--|
| SESSION: IronWedPM3-R2 | Assis International Symposium (9th Intl. Symp. on Advanced Sustainable Iron & Steel Making) |
| Wed. 29 Nov. 2023 / Room: Dreams 2 | |
| Session Chairs: Tateo Usui ; Session Monitor: TBA | |

17:50: [IronWedPM313] OS

DEVELOPMENT OF RATIONAL RESOURCE-SAVING TECHNOLOGY FOR SMELTING FERROSILICOALUMINUM AND ORGANIZATION OF ITS PRODUCTION

Abdurassul Zharmenov¹; Jürgen Hein²; Sailaubai Baisanov³; Alibek Baisanov³; Yerbolat Makhambetov³; ¹National Center on Complex Processing of Mineral Raw Materials of the Republic of Kazakhstan RSE, Almaty, Kazakhstan; ²ICMD International Corporation of Metal and Alloy Development Holding AG, Ганновер, Germany; ³Chemical-metallurgical Institute named after Zh. Abishev, Karaganda, Kazakhstan;
Paper ID: 385

18:15: [IronWedPM314] OL Keynote

OVERCOMING THE DESIGN AND OPERATING CONSTRAINTS FOR INCREASING PRODUCTIVITY OF ALUMINIUM SMELTING CELLS IN AN ENVIRONMENTALLY RESPONSIBLE MANNER

Barry J. Welch¹; ¹Em. Prof of Chemical & Materials Eng., U of Auckland N.Z. & Visiting Prof of Chem Eng., U of New South Wales, Australia, New Zealand, New Zealand;
Paper ID: 208

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

| | |
|--|---|
| SESSION: NanomaterialsWedAM-R3 | Echegoyen International Symposium (8th Intl. Symp. on Synthesis & Properties of Nanomaterials for Future Energy Demands) |
| Wed. 29 Nov. 2023 / Room: Dreams 3 | |
| <u>Session Chairs:</u> Tomas Torres ; Josep Maria Poblet ; <u>Session Monitor:</u> TBA | |

11:30: [NanomaterialsWedAM01] OS Invited

FUNCTIONALIZATION OF ENDOHEDRAL METALLOFULLERENES: INSIGHTS FROM COMPUTATIONAL STUDIES

Antonio Rodriguez-Forte¹; ¹Universitat Rovira i Virgili, Tarragona, Spain;
Paper ID: 47

11:55: [NanomaterialsWedAM02] OS

ACTINIDE ENDOHEDRAL METALLOFULLERENES

Josep Maria Poblet¹; ¹Universitat Rovira i Virgili (URV), Tarragona, Spain;
Paper ID: 28

12:20: [NanomaterialsWedAM03] OS Invited

SUBPHthalOCYANINES: A NEW CLASS OF NANOMATERIALS

Tomas Torres¹; Jorge Labella²; Juan B. Laforga²; Adriana Agramunt²; ¹Universidad Autonoma de Madrid, Madrid, Spain; ²Autonoma University of Madrid, Madrid, Spain;
Paper ID: 44

12:45: [NanomaterialsWedAM04] OS Invited

SILICON PHTHALOCYANINES AS LINKERS ON METAL-ORGANIC FRAMEWORKS ASSEMBLIES

Angela Sastre-Santos¹; Victor Sobrino-Bastán¹; Luis Martín Gomis¹; ¹Universidad Miguel Hernández de Elche, Elche, Spain;
Paper ID: 11

13:10 LUNCH

| | |
|---|---|
| SESSION: NanomaterialsWedPM1-R3 | Echegoyen International Symposium (8th Intl. Symp. on Synthesis & Properties of Nanomaterials for Future Energy Demands) |
| Wed. 29 Nov. 2023 / Room: Dreams 3 | |
| <u>Session Chairs:</u> Fernand Marquis ; David Gonzalez Rodriguez ; <u>Session Monitor:</u> TBA | |

14:00: [NanomaterialsWedPM105] OS Invited

MOLECULAR AND SUPRAMOLECULAR CHEMISTRY WITHIN CONFINED NANOSPACES

David Gonzalez Rodriguez¹; ¹Universidad Autónoma de Madrid, Madrid, Spain;
Paper ID: 46

14:25: [NanomaterialsWedPM106] OS

MANAGING CHARGE TRANSFER: FROM DIPOLAR STRUCTURES TO ELECTRODE INTERFACES

Vaentine Vullev¹; ¹University of California, Riverside, Riverside, United States;
Paper ID: 61

14:50: [NanomaterialsWedPM107] OS

NANO AND NANO HYBRID MATERIALS SYSTEMS FOR MULTIFUNCTIONAL APPLICATIONS

Fernand Marquis¹; ¹Integrated Materials Technologies and Systems (IMTS), United States;
Paper ID: 341

15:15: [NanomaterialsWedPM108] OS

ORGANIC SOLAR CELLS UTILIZING FUNCTIONALIZED NANOCARBON MATERIALS

Yutaka Matsuo¹; ¹Nagoya University, Nagoya, Japan;
Paper ID: 8

15:40 BREAK

| | |
|---|---|
| SESSION: NanomaterialsWedPM2-R3 | Echegoyen International Symposium (8th Intl. Symp. on Synthesis & Properties of Nanomaterials for Future Energy Demands) |
| Wed. 29 Nov. 2023 / Room: Dreams 3 | |
| Session Chairs: Francis D'Souza ; Emilio Palomares ; Session Monitor: TBA | |

15:55: [NanomaterialsWedPM209] OS Invited

A CARBON NANOTUBE BINDING NANO TWEEZER: PHOTOINDUCED CHARGE SEPARATION IN SUPRAMOLECULAR C60-BODIPY-SWCNT TRIADS

Francis D'Souza¹; ¹University of North Texas, Denton, United States;
Paper ID: 18

16:20: [NanomaterialsWedPM210] OS

MOLECULAR PHOTOVOLTAIC DEVICES: THE CENTRAL ROLE OF CHEMISTRY.

Emilio Palomares¹; ¹Inst. Chemical Research Catalonia, Tarragona, Spain;
Paper ID: 388

16:45: [NanomaterialsWedPM211] OS

SIGNALING MECHANICAL FORCE IN SOLID-STATE POLYMERS WITH TRIARYLMETHANE MECHANOPHORES

José Augusto Berrocal¹; James R. Hemmer²; Christopher Rader¹; Viola Bauernfeind²; ¹Institute of Chemical Research of Catalonia, Tarragona, Spain; ²Adolphe Merkle Institute, Fribourg, Switzerland;
Paper ID: 103

17:10: [NanomaterialsWedPM212] OS

COMPLEXES OF SEMICONDUCTOR FRAGMENTS FOR SOLAR-LIGHT REDUCTION OF CO₂ BY WATER

Ira Weinstock¹; Guanyun Zhang²; **Josep Maria Poblet**³; Chandan Tiwari⁴; Shubasis Roy¹; Mark Baranov¹; ¹Ben-Gurion University of the Negev, Beer Sheva, Israel; ²Shandong University, Ji'nan, China; ³Universitat Rovira i Virgili (URV), Tarragona, Spain; ⁴Carestream Health Inc., Saint Paul, United States;
Paper ID: 49

17:35 BREAK

| | |
|---|---|
| SESSION: NanomaterialsWedPM3-R3 | Echegoyen International Symposium (8th Intl. Symp. on Synthesis & Properties of Nanomaterials for Future Energy Demands) |
| Wed. 29 Nov. 2023 / Room: Dreams 3 | |
| <u>Session Chairs:</u> Noe Alvarez ; <u>Session Monitor:</u> TBA | |

17:50: [NanomaterialsWedPM313] OS

EXPERIMENTAL AND THEORETICAL STUDIES OF CHEMICAL BOND FORMATION BETWEEN CARBON NANOTUBES AND COPPER SURFACES

Noe Alvarez¹; Chaminda Nawarathne¹; Jorge Seminario²; Diego Galvez Aranda²; ¹University of Cincinnati, Cincinnati, United States; ²Texas A&M, College Station, United States;
Paper ID: 32

18:15: [NanomaterialsWedPM314] OS

A NEW CLASS OF EFFICIENT HOR PGM FREE MOLECULAR CATALYSTS: INSIGHTS ON THE HOR CATALYTIC ACTIVITY OF FUNCTIONALIZED FULLERENES

Mohamed Sanad Noufal¹; ¹Hampton University, Hampton, United States;
Paper ID: 67

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:
SolidStateChemistryWedAM-R4

**Poepelmeier International
Symposium**(3rd Intl Symp on **Solid State
Chemistry** for Applications & Sustainable
Development)

Wed. 29 Nov. 2023 / Room: **Dreams 4**

Session Chairs: Kent **Griffith**; Session Monitor: TBA

11:30: [SolidStateChemistryWedAM01] OS

**COPPER HALIDE PEROVSKITES: A HIGH THROUGHPUT SYNTHETIC
EXPLORATION**

Alexander Norquist¹; ¹Haverford College, Haverford, United States;

Paper ID: 261

11:55: [SolidStateChemistryWedAM02] OS

THE EMERGENCE OF POROUS HYBRID METAL HALIDE SEMICONDUCTORS

Ioannis Spanopoulos¹; ¹University of South Florida, Tampa, United States;

Paper ID: 169

12:20: [SolidStateChemistryWedAM03] OS

**IDENTIFICATION OF NEW HYBRID PEROVSKITES FROM X-RAY DIFFRACTION
PATTERNS USING CONVOLUTIONAL NEURAL NETWORKS**

Romain Gautier¹; Florian Massuyeau²; ¹CNRS UMR6502 IMN, Nantes, France; ²CNRS
- IMN, NANTES, France;

Paper ID: 262

12:45: [SolidStateChemistryWedAM04] OS

**DEVELOPMENT OF HYDRIDE-ION CONDUCTORS TOWARD NEW
ELECTROCHEMICAL REACTIONS**

Fumitaka Takeiri¹; Genki Kobayashi¹; ¹RIKEN, Wako, Saitama, Japan;

Paper ID: 291

13:10 LUNCH

SESSION:
SolidStateChemistryWedPM1-R4

**Poepelmeier International
Symposium**(3rd Intl Symp on **Solid State
Chemistry** for Applications & Sustainable
Development)

Wed. 29 Nov. 2023 / Room: **Dreams 4**

Session Chairs: Paul **Salvador**; Session Monitor: TBA

14:00: [SolidStateChemistryWedPM105] OL

**SOLID-STATE CHEMISTRY OF TRANSITION METAL FLUORIDES: FROM
FLUOROPEROVSKITES TO INORGANIC NANOFLUORIDES - PHYSICAL-
CHEMICAL PROPERTIES AND APPLICATIONS**

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

Paper ID: 80

14:25: [SolidStateChemistryWedPM106] OS

UNUSUAL CHARGE DISTRIBUTION AND PHYSICAL PROPERTIES INDUCED BY Bi,Pb 6S ELECTRONS

Takumi Nishikubo¹; Yuki Sakai¹; **Masaki Azuma**²; ¹Kanagawa Institute of Industrial Science and Technology, Ebina, Japan; ²Tokyo Institute of Technology, Yokohama, Japan;

Paper ID: 150

14:50: [SolidStateChemistryWedPM107] OS

EXPERIMENTAL REALIZATION OF LOW DIMENSIONAL MAGNETS

Hongcheng Lu¹; ¹Huazhong University of Science and Technology, Wuhan, China;

Paper ID: 193

15:15: [SolidStateChemistryWedPM108] OS

STRAIN ENGINEERING IN MIXED-ANION PEROVSKITES

Hiroshi Kageyama¹; ¹Kyoto University, Kyoto, Japan;

Paper ID: 190

15:40 BREAK

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|--|---|
| SESSION: SolidStateChemistryWedPM2-R4 | Poepelmeier International Symposium (3rd Intl Symp on Solid State Chemistry for Applications & Sustainable Development) |
| Wed. 29 Nov. 2023 / Room: Dreams 4 | |
| Session Chairs: Julia-Maria Hübner ; Session Monitor: TBA | |

15:55: [SolidStateChemistryWedPM209] OS

UNUSUAL CRYSTAL CHEMISTRY IN HIGH-RATE BATTERY ELECTRODES VIA X-RAY, NEUTRON, AND NMR CRYSTALLOGRAPHY

Kent Griffith¹; ¹UC San Diego, San Diego, United States;

Paper ID: 381

16:20: [SolidStateChemistryWedPM210] OS

NEW APPROACHES TO EPITAXIAL SYNTHESIS OF HIGHLY METASTABLE CUBIC PEROVSKITES IN THE BA-RICH (Ba,Sr)MnO₃ PEROVSKITES

Catherine Zhou¹; Gregory Rohrer¹; **Paul Salvador**¹; ¹Carnegie Mellon University, Pittsburgh, United States;

Paper ID: 346

16:45: [SolidStateChemistryWedPM211] OL

LOOKING BEYOND ALKALI METAL INTERCALATION FOR ENERGY STORAGE

Brent Melot¹; ¹University of Southern California, Los Angeles, United States;

Paper ID: 462

17:35 BREAK

| | |
|--|---|
| SESSION: SolidStateChemistryWedPM3-R4 | Poepelmeier International Symposium (3rd Intl Symp on Solid State Chemistry for Applications & Sustainable Development) |
| Wed. 29 Nov. 2023 / Room: Dreams 4 | |
| Session Chairs: <u>Shilie Pan</u> ; Session Monitor: TBA | |

17:50: [SolidStateChemistryWedPM313] OS Keynote

WHEN FLUORINE MEETS OTHER ELECTRONEGATIVE ELEMENTS : COMPETITIVE BONDS AT THE ORIGIN OF ANIONIC MOBILITY AND ELECTRONIC CONDUCTIVITY FOR ENERGY

Alain Demourgues¹; ¹ICMCB-CNRS-University of Bordeaux, Pessac, France;
Paper ID: 197

18:15: [SolidStateChemistryWedPM314] OS Invited

STRUCTURAL COMPLEXITY IN BINARY INTERMETALLIC COMPOUNDS

Julia-Maria Hübner¹; ¹Carnegie Institution for Science, Washington DC, United States;
Paper ID: 290

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

| | |
|---|--|
| SESSION: AdvancedMaterialsWedAM-R5 | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| Wed. 29 Nov. 2023 / Room: Heliconia | |
| Session Chairs: Pierre Collignon ; Kasturi Vasudevan ; Session Monitor: TBA | |

11:30: [AdvancedMaterialsWedAM01] OS Keynote

HYBRID PVD PROCESSES, ADDED VALUE FOR THE INDUSTRY AND AN OPPORTUNITY FOR THE GREEN INDUSTRIALIZATION OF HEAT AND SURFACE TREATMENTS.

Pierre Collignon¹; ¹PD2-I, PARIS, France;
Paper ID: 279

11:55: [AdvancedMaterialsWedAM02] OS

TURBO CODED OFDM-OQAM USING HILBERT TRANSFORM

Kasturi Vasudevan¹; ¹IIT Kanpur, Kanpur, India;
Paper ID: 334

12:20: [AdvancedMaterialsWedAM03] OL

GREEN COMPOSITES PREPARED FROM SHEEP WOOL REINFORCED VULCANISED RUBBER WITH ENHANCED PHYSICAL AND MECHANICAL PROPERTIES

Seiko Jose¹; ¹ICAR- Central Sheep and Wool Research Institute, Jaipur, India; Paper ID: 158

12:45: [AdvancedMaterialsWedAM04] OS

EFFECT OF GRAPHITE CONTENT IN THE STRUCTURE AND ON ELECTRODYNAMIC PROPERTIES OF ALN-BASED COMPOSITES

Tetiana Serbenyuk¹; Tetiana Prikhna²; **Fernand Marquis**³; Vladimir Sverdun¹; Myroslav Karpets⁴; Semyon Ponomaryov⁵; ¹Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kiev, Ukraine; ²V. Bakul Institute NASU, Kiev, Ukraine; ³Integrated Materials Technologies and Systems (IMTS), United States; ⁴Institute for Superhard Materials, Kiev, Ukraine; ⁵Institute of Semiconductor Physics of the National Academy of Sciences of Ukraine (NASU), Kyiv, Ukraine; Paper ID: 415

13:10 LUNCH

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|---|--|
| SESSION: AdvancedMaterialsWedPM1-R5 | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| Wed. 29 Nov. 2023 / Room: Heliconia | |
| <u>Session Chairs:</u> Fernand Marquis ; Marcos De Campos ; <u>Session Monitor:</u> TBA | |

14:00: [AdvancedMaterialsWedPM105] OS

OBTAINING BIOFUEL FROM WASTE FRYING OILS AND COMMERCIAL LINSEED OIL

Moacyr De Rezende¹; Fernanda A Sampaio Da Silva¹; Ingrid R De Lima¹; Bonifácio De Oliveira Fialho¹; **Marcos De Campos**²; ¹Federal Fluminense University, Volta Redonda, Brazil; ²UFF - Federal Fluminense University, Volta Redonda, Brazil; Paper ID: 270

14:25: [AdvancedMaterialsWedPM106] OL Keynote

NATURAL BIOACTIVES FOR HUMAN AND PLANETARY HEALTH

Martin Kussmann¹; ¹KErn and Kussmann Biotech, Freising, Germany; Paper ID: 284

14:50: [AdvancedMaterialsWedPM107] OS

COMPUTATIONAL MODELING OF ADSORPTION AND CONVERSION OF GAS POLLUTANTS - CARBON MONOXIDE AND NITROGEN OXIDES ON CERIUM DIOXIDE

Georgi Vayssilov¹; ¹University of Sofia, Sofia, Bulgaria;

Paper ID: 230

15:15: [AdvancedMaterialsWedPM108] OL Invited

SHAPE REVERSIBILITY AND DUAL MEMORY CHARACTERIZATION OF SHAPE MEMORY ALLOYS

Osman Adiguzel¹; ¹Firat University, Elazig, Turkey;

Paper ID: 240

15:40 BREAK

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|---|--|
| SESSION: AdvancedMaterialsWedPM2-R5 | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| Wed. 29 Nov. 2023 / Room: Heliconia | |
| Session Chairs: Sanjeev Khanna ; Malgorzata Gradzka-Dahlke ; Session Monitor: TBA | |

15:55: [AdvancedMaterialsWedPM209] OL

BEARING REMAINING USEFUL LIFE PREDICTION UNDER STARVED LUBRICATING CONDITION USING TIME DOMAIN ACOUSTIC EMISSION SIGNAL PROCESSING

Mohsen Motahari-Nezhad¹; ¹Technical and Vocational University, Zabol, Iran;

Paper ID: 254

16:20: [AdvancedMaterialsWedPM210] OL Keynote

LOOKING FOR INNOVATION STRATEGIES IN THE FIELD OF ENERGY STORAGE SET-UPS

Christine Frayret¹; ¹Université de Picardie Jules Verne, Amiens, France;

Paper ID: 359

16:45: [AdvancedMaterialsWedPM211] OS

MULTI SYNTHESSES METHODOLOGIES OF SUPERCONDUCTING MAX PHASE Ti₂InN

Tetiana Prikhna¹; Michael Eisterer²; **Fernand Marquis**³; Oxana Kvitniitska⁴; Robert Kluge⁴; Tetiana Serbenyuk⁵; Ran He⁴; Bernd Büchner⁴; Myroslav Karpets⁶; Viktor Moshchil⁶; Sebastian Gaß⁴; Alexander Borimskiy⁷; Xavier Obradors⁸; Teresa Puig⁸; ¹V. Bakul Institute NASU, Kiev, Ukraine; ²Atominstut, Technische Universität Wien, Vienna, Austria; ³Integrated Materials Technologies and Systems (IMTS), United States; ⁴Leibniz-Institut für Festkörper- und Werkstofforschung Dresden e. V., Dresden, Germany; ⁵Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kiev, Ukraine; ⁶Institute for Superhard Materials, Kiev, Ukraine; ⁷V. Bakul Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kyiv, Ukraine; ⁸Institut de Ciencia de Materials de Barcelona, CSIC, Bellaterra, Spain;

Paper ID: 375

17:10: [AdvancedMaterialsWedPM212] OS Keynote

ROLE OF INNOVATION AND INFORMATION IN THE GLOBAL QUEST TO ACHIEVE NET ZERO CARBON EMISSIONS

Yogi Goswami¹; ¹University of South Florida, Florida, United States;

Paper ID: 331

17:35 BREAK

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|---|--|
| SESSION: AdvancedMaterialsWedPM3-R5 | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| Wed. 29 Nov. 2023 / Room: Heliconia | |
| Session Chairs: Fernand Marquis ; Session Monitor: TBA | |

17:50: [AdvancedMaterialsWedPM313] OS

MAGNECIUM DIBORIDE- AND YBCO - BASED MATERIALS FOR APPLICATION IN HYDROGEN BASED TECHNOLOGIES

Tetiana Prikhna¹; Michael Eisterer²; **Fernand Marquis**³; Paul Saass⁴; Bernd Büchner⁵; Vladimir Sokolovskiy⁶; Viktor Moshchil⁷; Dirk Lindackers⁵; Semyon Ponomarov⁸; Xavier Obradors⁹; Teresa Puig⁹; Alexey Pan¹⁰; Frank Werfel¹¹; Vladimir Sverdun¹²; ¹V. Bakul Institute NASU, Kiev, Ukraine; ²Atominstut, Technische Universität Wien, Vienna, Austria; ³Integrated Materials Technologies and Systems (IMTS), United States; ⁴SciDre – Scientific Instruments Dresden GmbH, Dresden, Germany; ⁵Leibniz-Institut für Festkörper- und Werkstoffforschung Dresden e. V., Dresden, Germany; ⁶Ben-Gurion University of the Negev, Beer-Sheva, Israel, Beer-Sheva 84105, Israel; ⁷Institute for Superhard Materials, Kiev, Ukraine; ⁸Institute of Semiconductor Physics, Kiev, Ukraine; ⁹Institut de Ciencia de Materials de Barcelona, CSIC, Bellaterra, Spain; ¹⁰Institute for Superconducting and Electronic Materials, Wollongong, Australia; ¹¹Adelwitz Technologiezentrum GmbH (ATZ), Torgau, Germany; ¹²Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Kiev, Ukraine; Paper ID: 374

18:15: [AdvancedMaterialsWedPM314] OS

ANTI-MARTENSITIC PHASE TRANSFORMATION OF GLASS WITH ENHANCED ELASTIC PROPERTIES AND SAFETY

Angyang Yu¹; ¹Jilin Agricultural University; Changchun; China. 130118, Changchun, China;

Paper ID: 403

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:
LawsWedAM-R6

Carter International Symposium (3rd Intl
Symp on **Laws &** their Applications for
Sustainable Development)

Wed. 29 Nov. 2023 / Room: **Orchid**

Session Chairs: Malcolm **McNeil**; Samuel **Berger**; Session Monitor: TBA

11:30: [LawsWedAM01] OS Plenary

NEW TECHNOLOGIES AND THE PROTECTION OF HUMAN RIGHTS OF INDIVIDUALS

Hunter Carter¹; ¹ArentFox Schiff, New York, United States;
Paper ID: 461

11:55: [LawsWedAM02] OS Plenary

DEPOLITICIZING SUSTAINABILITY: A SENSIBLE APPROACH TO A BALANCE IN ENVIRONMENTAL ENERGY CONSIDERATIONS

Malcolm McNeil¹; ¹ArentFox Schiff LLP, Los Angeles, United States;
Paper ID: 420

12:20: [LawsWedAM03] OS Plenary

SCIENCE CAN BE SIGNIFICANTLY ENHANCED BY DATA SCIENCE – THEY ARE MUTUALISTIC

Samuel Berger¹; ¹NFSD, Norco, United States;
Paper ID: 351

13:10 LUNCH

SESSION:
LawsWedPM1-R6

Carter International Symposium (3rd Intl
Symp on **Laws &** their Applications for
Sustainable Development)

Wed. 29 Nov. 2023 / Room: **Orchid**

Session Chairs: Malcolm **McNeil**; Hunter **Carter**; Session Monitor: TBA

14:00: [LawsWedPM105] OS Keynote

THE IMPORTANCE OF THE PROTECTION OF HUMAN RIGHTS AND SUSTAINABILITY

Hunter Carter¹; ¹ArentFox Schiff, New York, United States;
Paper ID: 460

14:25: [LawsWedPM106] OS Plenary

COMMON VERSUS CIVIL LAW SYSTEMS AND APPOINTED VERSUS ELECTED JUDICIAL SYSTEMS: ADVANTAGES AND DISADVANTAGES

Florian Kongoli¹; ¹FLOGEN Star OUTREACH, Montreal, Canada;
Paper ID: 406

14:50: [LawsWedPM107] OS Keynote

PROTECTING YOUR CRITICAL COMPANY DATA – KEY SECURITY METHODS OFTEN OVERLOOKED OR VIOLATED

Samuel Berger¹; ¹NFSD, Norco, United States;

Paper ID: 352

15:15: [LawsWedPM108] OS

DRAWBECK - AN INCENTIVE FOR BRAZILIAN EXPORTS

Wilson Ferreira Santos Jr.¹; ¹Masonic Court of Justice of the Grand Orient of Minas Gerais, Minas Gerais, Brazil;

Paper ID: 495

15:40 BREAK

| | |
|--|---|
| SESSION: LawsWedPM2-R6 | Carter International Symposium (3rd Intl Symp on Laws & their Applications for Sustainable Development) |
| Wed. 29 Nov. 2023 / Room: Orchid | |
| Session Chairs: Wilson Ferreira Santos Jr. ; Session Monitor: TBA | |

15:55: [LawsWedPM209] OS Keynote

MODERN CORPORATE COMPLIANCE SYSTEMS AND THEIR EFFECT IN PREVENTING CORRUPTION AND CRIME

Hunter Carter¹; ¹ArentFox Schiff, New York, United States;

Paper ID: 459

16:20: [LawsWedPM210] OS

GLOBAL IMMIGRATION & HUMAN SUSTAINABILITY

Berin Romagnolo¹; ¹ArentFox Schiff, Boston, United States;

Paper ID: 398

16:45: [LawsWedPM211] OS

US EXPERIENCE WITH A JUST TRANSITION TO A CLEAN ENERGY FUTURE

Amy Antonioli¹; ¹ArentFox Schiff LLP, Chicago, United States;

Paper ID: 314

17:10: [LawsWedPM212] OL

NATURE IS GETTING BACK AT US

Edna Pana¹; ¹RIDGE TO REEF ENVIRONMENTAL CONSULTANCY, INC., MAKATI, Philippines;

Paper ID: 204

17:35 BREAK

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:
MineralWedAM-R7

Torem International Symposium (8th
Intl. Symp. on Sustainable **Mineral**
Processing)

Wed. 29 Nov. 2023 / Room: **Sunflower**

Session Chairs: Marcos **De Campos**; Session Monitor: TBA

11:30: [MineralWedAM01] OS

SURFACE CHEMISTRY OF THE ELECTROFLOTATION OF HEMATITE FROM AN ITABIRITIC ORE USING A GROUND-BREAKING BIOSURFACTANT EXTRACTED FROM A HYDROFOBIC STRAIN

Matheus Silva¹; Carolina Simões¹; Ronald Rojas Hacha²; Antonio Gutierrez Merma³;
Mauricio Leonardo Torem¹; ¹Pontifical Catholic University of Rio de Janeiro, Rio de Janeiro, Brazil; ²Pontifical Catholic University of Rio de Janeiro, Rio de Janeiro, Peru; ³Vale Institute of Technology, Rio de Janeiro, Brazil;
Paper ID: 30

11:55: [MineralWedAM02] OS Keynote

A NEW SUSTAINABLE TECHNOLOGY TO PROCESS MINING DAMS TAILING TO PRODUCE SPECIAL BRICKS FOR CONSTRUCTION

Wilson José Guerra¹; ¹Gorceix Foundation, Ouro Preto, Brazil;
Paper ID: 507

12:20: [MineralWedAM03] OS Keynote

PRODUCTION OF CONCENTRATES WITH HIGH GRADE GRAPHITE FLAKES FROM GRAPHITE ORES

Fernando Jose Gomes¹; ¹Foundation Gorceix, Ouro Preto, Brazil;
Paper ID: 472

12:45: [MineralWedAM04] OS Keynote

GENERATION OF PREMIUM IRON ORE CONCENTRATES FOR DIRECT IRON REDUCTION

Fernando Jose Gomes¹; ¹Foundation Gorceix, Ouro Preto, Brazil;
Paper ID: 473

13:10 LUNCH

SESSION:
MineralWedPM1-R7

Torem International Symposium (8th
Intl. Symp. on Sustainable **Mineral**
Processing)

Wed. 29 Nov. 2023 / Room: **Sunflower**

Session Chairs: Fernando Jose **Gomes**; Session Monitor: TBA

14:00: [MineralWedPM105] OS

RARE-EARTH MARKET AND APPLICATIONS: THE RECENT TRENDS

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Marcos De Campos¹; Amilton Da Silva Jr²; Jose Adilson De Castro¹; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil; ²CEFET - RJ, Valença, Brazil;
Paper ID: 292

14:25: [MineralWedPM106] OS Keynote

GENERATION OF COMMERCIAL LITHIUM CONCENTRATE FROM FELDSPHATE FLOTATION

Fernando Jose Gomes¹; ¹Foundation Gorceix, Ouro Preto, Brazil;
Paper ID: 499

14:50: [MineralWedPM107] OS

ANALYSIS OF SUSTAINABLE IRON ORE SINTERING PROCESS USING MODELING APPROACH

Jose Adilson De Castro¹; **Marcos De Campos**¹; Elizabeth Oliveira²; Giulio Antunes De Medeiros³; Leonardo Martins Da Silva⁴; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil; ²Center for Technological Education Celso Suckow da Fonseca, Valenca, Brazil; ³UFF-Programa de Pos Graduação em Engenharia Metalurgica, Volta Redonda, Brazil; ⁴Universidade Federal Fluminense, Volta Redonda, Brazil;
Paper ID: 71

15:15: [MineralWedPM108] OL

DETERMINATION OF RARE EARTHS AND NON-RARE EARTHS BY INDUCTIVELY COUPLED PLASMA-OPTICAL EMISSION SPECTROMETRY AFTER MICROWAVE DIGESTION

Dhiroshnee Govender¹; ¹Tshwane University of Technology, Pretoria, Randburg, South Africa;
Paper ID: 310

15:40 BREAK

| | |
|--|--|
| SESSION: MineralWedPM2-R7 | Torem International Symposium (8th Intl. Symp. on Sustainable Mineral Processing) |
| Wed. 29 Nov. 2023 / Room: Sunflower | |
| <u>Session Chairs:</u> Marcos De Campos ; <u>Session Monitor:</u> TBA | |

15:55: [MineralWedPM209] OS

THE CREATION OF A CLIMATE CLUB FOR A SUSTAINABLE ECONOMIC FUTURE

Rafael Leal-Arcas¹; ¹Alfaisal University, Riyadh, Saudi Arabia;
Paper ID: 316

16:20: [MineralWedPM210] OS

GREEN EXTRACTION OF RARE EARTH ELEMENTS (REE) USING FROTH AND FOAM FLOTATIONS

Hanumantha Rao Kota¹; ¹Norwegian Univ. of Sce & Techn (NTNU), Trondheim,

Norway;
Paper ID: 400

16:45: [MineralWedPM211] OS

CYANIDE PERSISTENCE IN A GOLD PHYTOEXTRACTION TRIAL

Hector Gamboa-Baez¹; Mayra C. Rodriguez-Lopez²; Joel Lopez-Perez³; Victor Wilson-Corral⁴; ¹Tecnológico Nacional de México/Instituto Tecnológico Superior de Eldorado, Eldorado, Mexico; ²Centro de Estudios Justo Sierra (CEJUS), Surutato, Mexico; ³Centro de Innovacion y Desarrollo Educativo (CIDE) A. C, Culiacan, Mexico; ⁴Centro de Innovacion y Desarrollo Educativo (CIDE)-Seccion Sinaloa, Culiacan, Mexico;

Paper ID: 227

17:10: [MineralWedPM212] OS

EFFICIENCY OF EDDS IN PHYTOREMEDIATION PROCESS OF COPPER-CONTAMINATED MINE WASTE

Mayra C. Rodriguez-Lopez¹; Hector Gamboa-Baez²; Joel Lopez-Perez³; Victor Wilson-Corral⁴; ¹Centro de Estudios Justo Sierra (CEJUS), Surutato, Mexico; ²Tecnológico Nacional de México/Instituto Tecnológico Superior de Eldorado, Eldorado, Mexico; ³Centro de Innovacion y Desarrollo Educativo (CIDE) A. C, Culiacan, Mexico; ⁴Centro de Innovacion y Desarrollo Educativo (CIDE)-Seccion Sinaloa, Culiacan, Mexico;

Paper ID: 185

17:35 BREAK

| | |
|---|---|
| SESSION: MineralWedPM3-R7 | Torem International Symposium (8th Intl. Symp. on Sustainable Mineral Processing) |
| Wed. 29 Nov. 2023 / Room: Sunflower | |
| Session Chairs: Fernando Jose Gomes ; Session Monitor: TBA | |

17:50: [MineralWedPM313] OS

SCIENTIFIC RESEARCH AND TECHNOLOGY COMMERCIALIZATION FOR SUSTAINABLE DEVELOPMENT IN THE MINING AND METALLURGICAL INDUSTRY

Abdurassul Zharmenov¹; ¹National Center on Complex Processing of Mineral Raw Materials of the Republic of Kazakhstan RSE, Almaty, Kazakhstan;

Paper ID: 497

18:15: [MineralWedPM314] OS Keynote

RESILIENT FOOD SYSTEMS AND HEALTHY DIETARY PATTERNS FOR A SUSTAINABLE WORLD - THE CASE OF MEDITERRANEAN DIET

Anka Trajkovska Petkoska¹; Anita Trajkovska-Broach²; ¹Full Professor, Veles, Macedonia (Former Yugoslav Republic of Macedonia); ²Scientist/Consultant, CSI:

Create. Solve. Innovate. LLC, Blacksburg, United States;
Paper ID: 238

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

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|--|---|
| SESSION: GeochemistryWedAM-R8 | Navrotsky International Symposium (2nd Intl. symp. on Geochemistry for Sustainable Development) |
| Wed. 29 Nov. 2023 / Room: Coral Reef | |
| <u>Session Chairs:</u> Wenhao Sun ; Hans Juergen Seifert ; <u>Session Monitor:</u> TBA | |

11:30: [GeochemistryWedAM01] OS

LIFTING PHASE DIAGRAMS OUT OF FLATLAND

Wenhao Sun¹; ¹University of Michigan, Michigan, United States;

Paper ID: 456

11:55: [GeochemistryWedAM02] OL

**DREAMING UP A TOOLBOX FOR STUDYING RADIATION-INDUCED PROCESSES
ACROSS TEMPORAL AND SPATIAL SCALES**

Carolyn Pearce¹; ¹Pacific Northwest National Laboratory, Richland, United States;

Paper ID: 257

12:20: [GeochemistryWedAM03] OL

**GEOLOGICAL AND GEOCHEMICAL CHARACTERIZATION OF TERRA ROSSA
FORMATIONS IN SOUTHWESTERN ANATOLIA: A GIS-BASED APPROACH FOR
DISTRIBUTION AND LAND USE ANALYSIS**

Ali İskenderoğlu¹; Mustafa Kumral²; Beril Kaya³; Ali Tugcan Unluer³; **Murat
Budakoğlu**⁴; ¹Turkish Court of Accounts, Ankara, Turkey; ²Istanbul Technical
University, İstanbul, Turkey; ³Istanbul Technical University, İstanbul, Turkey; ⁴Istanbul
Technical University, İstanbul, Turkey;

Paper ID: 312

12:45: [GeochemistryWedAM04] OS

**VISCOSITIES OF OXIDE MELTS AND GLASSES: UNARY, BINARY & TERNARY
SYSTEMS**

Semen Kuzovchikov¹; Georgy Zhomin¹; Anatoly Arkhipin¹; Alex Kondratiev²;
¹Laboratory of Chemical Thermodynamics, Faculty of Chemistry, Lomonosov Moscow
State University, Moscow, Russian Federation; ²National University of Science and
Technology, Moscow, Russian Federation;

Paper ID: 123

13:10 LUNCH

SESSION:
GeochemistryWedPM1-R8

Navrotsky International Symposium
(2nd Intl. symp. on **Geochemistry** for
Sustainable Development)

Wed. 29 Nov. 2023 / Room: **Coral Reef**

Session Chairs: Michael **Bustamante**; Session Monitor: TBA

14:00: [GeochemistryWedPM105] OS

SIZE AND STRUCTURE OF WILDFIRE-GENERATED NANOPARTICLES AND THEIR ASSOCIATION WITH HEXAVALENT CHROMIUM

Alireza Namayandeh¹; Alandra Lopez¹; Claudia Christine Avila²; Jose Luiz Sarabia Torres³; Charlie Lamb²; Alex Honeyman²; Ayooluwateso Coker²; Derek Peak⁴; Scott Fendorf²; ¹Stanford University, Stanford, United States; ²Earth System Science Department, Stanford University, Stanford, United States; ³San José State University, San José, United States; ⁴Department of Soil Science, University of Saskatchewan, Saskatoon, Canada;

Paper ID: 303

14:25: [GeochemistryWedPM106] OS

TREATMENT OF LOW-GRADE GOLD-BEARING TAILINGS BY COMBINED PROCESS OF GEOCHEMISTRY AND SMELTING

Dawei Feng¹; ¹University of Science and Technology Beijing, Beijing, China;

Paper ID: 196

14:50: [GeochemistryWedPM107] OS

THERMOCHEMISTRY OF AEROSPACE MATERIALS IN EXTREME ENVIRONMENTS

Gustavo Costa¹; ¹NASA, Cleveland, United States;

Paper ID: 272

15:15: [GeochemistryWedPM108] OS

EXPLORING THE REDOX PROPERTIES IN THE CeO₂-UO₂ SYSTEM

Lee Shelly¹; **Shmulik Hayun**¹; Brian Rosen²; Danielle Schweke³; Albert Danon⁴; ¹Ben-Gurion University of the Negev, Beer-Sheva, Israel; ²Department of Materials Science and Engineering, Tel Aviv University, Tel Aviv, Israel; ³Nuclear Research Centre - Negev, Beer-Sheva, Israel; ⁴Nuclear Research Centre - Negev, Beer-Sheva, Israel;

Paper ID: 53

15:40 BREAK

SESSION:
GeochemistryWedPM2-R8

Navrotsky International Symposium
(2nd Intl. symp. on **Geochemistry** for
Sustainable Development)

Wed. 29 Nov. 2023 / Room: **Coral Reef**

Session Chairs: Qijun **Hong**; Session Monitor: TBA

15:55: [GeochemistryWedPM209] OS

NOVEL INSIGHT INTO DEFECT BEHAVIOR OF IRRADIATED MATERIALS - COMBINED NEUTRON TOTAL SCATTERING AND HIGH TEMPERATURE CALORIMETRY INVESTIGATION

Maik Lang¹; ¹University of Tennessee, Knoxville, United States;
Paper ID: 97

16:20: [GeochemistryWedPM210] OS

EXPERIMENTAL INVESTIGATION OF THERMODYNAMIC PROPERTIES OF RARE-EARTH HAFNATES

Alexandra Khvan¹; Irina Bajenova²; Anton V. Guskov³; Pavel G. Gagarin³; Vladimir N. Guskov³; Konstantin S. Gavrichev³; ¹National University of Science and Technology, Moscow, Russian Federation; ²Laboratory of Chemical Thermodynamics, Faculty of Chemistry, Lomonosov Moscow State University, Moscow, Russian Federation; ³Kurnakov Institute of General and Inorganic Chemistry of RAS, Moscow, Russian Federation;
Paper ID: 122

17:35 BREAK

08:00 SUMMIT PLENARY

11:10 BREAK

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|---|---|
| SESSION: PhysicsWedAM-R9 | 2nd Intl Symp on Physics , Technology & Interdisciplinary Research for Sustainable Development |
| Wed. 29 Nov. 2023 / Room: Showroom | |
| Session Chairs: Peter Rowlands ; Megumi Hirota ; Session Monitor: TBA | |

11:30: [PhysicsWedAM01] OL

FROM COLLAPSES RESULTING FROM MEASUREMENTS TO SPONTANEOUS PROJECTIONS

María Esther Burgos¹; ¹Universidad de Los Andes, Mérida, Venezuela;
Paper ID: 245

11:55: [PhysicsWedAM02] OL

THE HAND OF GOD ALPHA REPRESENTS RADIAL PULSATION LIMITS OF FERNANDES-186 ETHER TO THE PLANCK ETHER LENGTH

Francis V Fernandes¹; ¹Kodaikanal, India;
Paper ID: 407

12:20: [PhysicsWedAM03] OL

144 GeV ATLAS BUMP REVEALS THE FERNANDES 186-PHOTON MASS

Francis V Fernandes¹; ¹Kodaikanal, India;
Paper ID: 408

12:45: [PhysicsWedAM04] OL

THE HIGG'S BOSON DOES NOT GIVE MASS. THE FERNANDES 737-AITHERON FREQUENCY DOES.

Francis V Fernandes¹; ¹Kodaikanal, India;
Paper ID: 409

13:10 LUNCH

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|--|---|
| SESSION: MathematicsWedPM1-R9 | 6th Intl. Symp. on Sustainable Mathematics Applications |
| Wed. 29 Nov. 2023 / Room: Showroom | |
| Session Chairs: Ruggero Maria Santilli ; Mike Mikalajunas ; Session Monitor: TBA | |

14:00: [MathematicsWedPM105] OS Keynote

INTRODUCTION TO ISO-PLANE GEOMETRY - PART 1

Svetlin Georgiev¹; ¹Sorbonne University, Paris, France;
Paper ID: 220

14:25: [MathematicsWedPM106] OS Keynote

INTRODUCTION TO ISO-PLANE GEOMETRY - PART 2

Svetlin Georgiev¹; ¹Sorbonne University, Paris, France;
Paper ID: 221

14:50: [MathematicsWedPM107] OS

TOWARDS UNIVERSAL AND POTENT PHILOSOPHICAL MATHEMATICS – FROM DEEP DIFFERENTIAL ONTOLOGY, QUALITATIVE INFORMATICS AND DEEP FIBONACCI MATHEMATICS; REVISITING LAWS OF FORM AS TEMPLATE

Stein E. Johansen¹; ¹Norwegian University of Science and Technology / Institute of Basic Research, USA, Trondheim, Norway;
Paper ID: 224

15:15: [MathematicsWedPM108] OS Keynote

MULTISCALE MATERIALS MODELING - FATIGUE SIMULATION

Siegfried Schmauder¹; ¹University of Stuttgart, Lenningen, Germany;
Paper ID: 246

15:40 BREAK

| | |
|--|---|
| SESSION: MathematicsWedPM2-R9 | 6th Intl. Symp. on Sustainable Mathematics Applications |
| Wed. 29 Nov. 2023 / Room: Showroom | |
| Session Chairs: Ruggero Maria Santilli ; Mike Mikalajunas ; Session Monitor: TBA | |

15:55: [MathematicsWedPM209] OS

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USING OFFLINE TANGIBLE CODING GAMES AS TOOLS FOR A MATHEMATICS CLASS

George Marufu Chirume¹; ¹Passgrade International Learning Centre, Gweru, Zimbabwe;
Paper ID: 304

16:20: [MathematicsWedPM210] OS

SHOCK INDUCED COMPRESSIVE FAILURE IN GLASS REINFORCED PLASTICS

Arunachalam Rajendran¹; ¹University of Mississippi, University, United States;
Paper ID: 75

16:45: [MathematicsWedPM211] OS

AN AXIOMATIC APPROACH TO THE INTERACTION CONCEPT IN PHYSICS

Jesus Cruz Guzman¹; ¹Universidad Nacional Autonoma de Mexico, Coyoacan, Mexico;
Paper ID: 387

17:35 BREAK

| | |
|---|---|
| SESSION: MathematicsWedPM3-R9 Wed. 29 Nov. 2023 / Room: Showroom <u>Session Chairs:</u> Ruggero Maria Santilli ; Mike Mikalajunas ; <u>Session Monitor:</u> TBA | 6th Intl. Symp. on Sustainable Mathematics Applications |
|---|---|

17:50: [MathematicsWedPM313] OS

NUMERICAL SIMULATION OF BLAST WAVE IN SHOCK TUBE

Ang-Yang Yu¹; ¹Heilongjiang Vocational College of Biology Science and Technology, Heilongjiang, China;
Paper ID: 377

18:15: [MathematicsWedPM314] OS

NUMERICAL SIMULATION OF SEISMIC WAVE FIELD IN THE TWO-PHASE VISCOELASTIC EDA MEDIA

Ang-Yang Yu¹; ¹Heilongjiang Vocational College of Biology Science and Technology, Heilongjiang, China;
Paper ID: 449

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:
GlassWedAM-R10

Durán International Symposium on
Sustainable Glass Processing and
Applications

Wed. 29 Nov. 2023 / Room: **Boardroom**

Session Chairs: Ali Efe **Caglayan**; Refika **Budakoğlu**; Session Monitor: TBA

11:30: [GlassWedAM01] OL

BIOACTIVE GLASSES – THEIR STRUCTURE, PROPERTIES AND APPLICATIONS

Delia S. Brauer¹; ¹Friedrich Schiller University, Jena, Germany;

Paper ID: 15

11:55: [GlassWedAM02] OL

PUBLIC ADVOCACY IN GLASS PROMOTION

Vinit Kapur¹; ¹The All India Glass Manufacturers' Federation (AIGMF), New Delhi House, India;

Paper ID: 453

12:20: [GlassWedAM03] OS Keynote

COLLECTING POST-CONSUMER GLASS TO CLOSE THE LOOP – LESSONS LEARNED BY THE BUILDING GLASS CULLET COLLECTION SCHEME IN THE NETHERLANDS

Niels Schreuder¹; ¹Vlaskglas Recycling Nederland (VRN), Belgium, Belgium;

Paper ID: 373

12:45: [GlassWedAM04] OS

TABLEWARE GLASS WEATHERING

Peter Simurka¹; Peter Vrabel²; Veronika Vargova²; Jozef Kraxner³; ¹Jasispo s.r.o, Trenčín, Slovakia; ²Rona a.s., Lednicke Rovne, Slovakia; ³FunGlass, Alexander Dubcek University of Trenčín, Trenčín, Slovakia;

Paper ID: 329

13:10 LUNCH

SESSION:
ElectrochemistryWedPM1-R10

4th Intl. Symp. on **Electrochemistry** for
Sustainable Development

Wed. 29 Nov. 2023 / Room: **Boardroom**

Session Chairs: Alexander **Oleinick**; Ali **Seifitokaldani**; Session Monitor: TBA

14:00: [ElectrochemistryWedPM105] OS Plenary

IMPORTANCE OF DIFFUSIONAL CONSTRAINTS IN QUANTITATIVE EVALUATION OF CALIBRATION CURVES OF ENZYMATIC MICRO- AND NANO-ELECTROCHEMICAL SENSORS

Reina Dannaoui¹; Xiao-Ke Yang²; Wei-Hua Huang²; Irina Svir³; **Alexander Oleinick**⁴; Christian Andre Amatore⁵; ¹CNRS, ENS - PSL University, Sorbonne University, Paris, France; ²Wuhan University, Wuhan, China; ³CNRS & PSL, Paris, France; ⁴CNRS,

Paris, France; ⁵CNRS & PSL, French Academy of Sciences, Paris, France;
Paper ID: 174

14:25: [ElectrochemistryWedPM106] OS

ELECTROCATALYTIC CONVERSION OF CO₂ USING EXTREMELY SMALL PARTICLES

Ali Seifitokaldani¹; ¹McGill University, Department of Chemical Engineering, Montreal, Canada;

Paper ID: 235

14:50: [ElectrochemistryWedPM107] OS

EFFECT OF TI SUBSTITUTION ON SDC20 AS ANODE MATERIAL FOR SOFC APPLICATIONS

Kapil Sood¹; ¹Government College Dhaliara, Dhaliara, India;

Paper ID: 336

15:40 BREAK

SESSION: 2nd Intl Symp. on **Corrosion** for
CorrosionWedPM2-R10 Sustainable Development

Wed. 29 Nov. 2023 / Room: **Boardroom**

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

15:55: [CorrosionWedPM209] OS

INNOVATIVE SURFACE MODIFICATION FOR ENABLING CVD GRAPHENE COATING ON STEELS FOR REMARKABLE CORROSION RESISTANCE

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

Paper ID: 83

16:20: [CorrosionWedPM210] OL

OVERVIEW OF THE UNIFICATION OF THE THEORIES FOR LOCALIZED AND GENERAL CORROSION

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

Paper ID: 127

16:45: [CorrosionWedPM211] OL

OVERVIEW OF THE THEORIES OF STRESS CORROSION CRACKING AND CORROSION FATIGUE

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

Paper ID: 128

17:10: [CorrosionWedPM212] OS

A CRITICAL REVIEW ON CORROSION BEHAVIOR OF MECHANICALLY SURFACE TREATED ALUMINUM ALLOYS

Nima Valizade¹; George Jarjoura¹; Georges Kipouros¹; ¹Dalhousie University, Halifax,

Canada;
Paper ID: 228

17:35 BREAK

| | |
|---|---|
| SESSION: CorrosionWedPM3-R10 | 2nd Intl Symp. on Corrosion for Sustainable Development |
| Wed. 29 Nov. 2023 / Room: Boardroom | |
| Session Chairs: Raman Singh ; Session Monitor: TBA | |

17:50: [CorrosionWedPM313] OS

DESIGNING ANTI-MILDEW SMART MICROCAPSULES TO IMPROVE SELF-HEALING PERFORMANCE FOR WATER-BASED EPOXY COATINGS

Ying Li¹; ¹Institute of Metal Research, Chinese Academy of Science, Shenyang, China;
Paper ID: 138

18:15: [CorrosionWedPM314] OL

UTILIZATION OF AS RECEIVED AND UNSW - DEVELOPED NEAR WHITENED FLY ASH IN VIRGIN WHITE POLYMER POLYPROPYLENE GENERATING BETTER MECHANICAL && IMPACT PROPERTIES

Sri Brandyopadhyay¹; ¹University of New South Wales, UNSW, Sydney Australia, Sydney, Australia;
Paper ID: 322

19:00 DINNER

08:00 SUMMIT PLENARY

11:10 BREAK

| | |
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| SESSION: covid19WedAM-R11 | Guerrant International Symposium (2nd Intl Symp. on COVID-19/Infectious Diseases & their implications on Sustainable Development) |
| Wed. 29 Nov. 2023 / Room: DiscoRoom | |
| Session Chairs: William Petri Jr ; Scott Heysell ; Session Monitor: TBA | |

11:30: [covid19WedAM01] OL Plenary

SUSTAINABILITY LESSONS FROM INFECTIOUS DISEASES AND HUMAN BEHAVIOR AND DISPARITIES ON PLANETARY ENVIRONMENT & HUMAN SURVIVAL – A CAREER EXPERIENCE

Richard L. Guerrant¹; ¹University of Virginia School of Medicine, Charlottesville, Virginia, United States;
Paper ID: 205

11:55: [covid19WedAM02] OL

ROLE OF TYPE 2 IMMUNITY IN COVID-19

William Petri Jr¹; ¹University of Virginia, Charlottesville, United States;

Paper ID: 233

12:20: [covid19WedAM03] OL

A SUSTAINABLE APPROACH TO ELIMINATING TUBERCULOSIS

Pranay Sinha¹; ¹Boston University Chobanian & Avedisian School of Medicine, Boston, United States;

Paper ID: 206

12:45: [covid19WedAM04] OS Invited

POST-COVID-19 PANDEMIC: WHAT'S OUR WAY AND WHAT'S FOR THE FUTURE?

Viroj Wiwanitkit¹; ¹Chandigarh university, Punjab, India, mohali, India;

Paper ID: 353

13:10 LUNCH

| | |
|--|--|
| SESSION: covid19WedPM1-R11 | Guerrant International Symposium (2nd Intl Symp. on COVID-19/Infectious Diseases & their implications on Sustainable Development) |
| Wed. 29 Nov. 2023 / Room: DiscoRoom | |
| <u>Session Chairs:</u> Rebecca Scharf ; Pranay Sinha ; <u>Session Monitor:</u> TBA | |

14:00: [covid19WedPM105] OL

EDUCATIONAL DISPARITIES FROM DISEASES OF THE POOR

Rebecca Scharf¹; ¹University of Virginia, Charlottesville, United States;

Paper ID: 244

14:25: [covid19WedPM106] OL

HEALTH DISPARITIES FROM SOCIETAL LAWS/PRACTICES: HIV IN RUSSIA AND THE U.S.

Scott Heysell¹; ¹University of Virginia, Charlottesville, United States;

Paper ID: 255

14:50: [covid19WedPM107] OS Plenary

MAPPING SUSTAINABLE HEALTH PROFESSIONAL EDUCATION IN THE POST-PANDEMIC WORLD WITH A FOCUS ON EMERGING PRACTICES - PART 1

Hossein Khalili¹; ¹University of Wisconsin-Madison & Interprofessional Research.Global (IPR.Global), Madison, United States;

Paper ID: 250

15:15: [covid19WedPM108] OS Keynote

MAPPING SUSTAINABLE HEALTH PROFESSIONAL EDUCATION IN THE POST-

PANDEMIC WORLD WITH A FOCUS ON EMERGING PRACTICES - PART 2

Hossein Khalili¹; ¹University of Wisconsin-Madison & InterprofessionalResearch.Global (IPR.Global), Madison, United States;
Paper ID: 251

15:40 BREAK

| | |
|--|--|
| SESSION: covid19WedPM2-R11 | Guerrant International Symposium (2nd Intl Symp. on COVID-19/Infectious Diseases & their implications on Sustainable Development) |
| Wed. 29 Nov. 2023 / Room: DiscoRoom | |
| Session Chairs: Hossein Khalili ; Ranjan Ramasamy ; Session Monitor: TBA | |

15:55: [covid19WedPM209] OS

OVERVIEW OF CONSTRAINTS IN APPLYING RECENT ADVANCES IN BIOLOGICAL SCIENCES FOR SOCIETAL BENEFIT

Ranjan Ramasamy¹; ¹Consultant in Biological Sciences, Abingdon, United Kingdom;
Paper ID: 315

16:20: [covid19WedPM210] OS

AIR-CLENZ NOVEL EXHALED-AIR-CAPTURE-AND-PURIFICATION TECHNOLOGY FOR MULTI-OCCUPANT INDOOR VENUES

Anita Trajkovska-Broach¹; Ronald Blum²; Stu Sheldon³; ¹Scientist/Consultant, CSI: Create. Solve. Innovate. LLC, Blacksburg, United States; ²Chairman/President, Atlanta, United States; ³CEO, Atlanta, United States;
Paper ID: 286

17:35 BREAK

Thursday

08:00 SUMMIT PLENARY

11:10 BREAK

| | |
|---|--|
| SESSION: OxidativeThuAM-R1 | Ozawa International Symposium (3rd Intl. Symp. on Oxidative Stress for Sustainable Development of Human Beings) |
| Thu. 30 Nov. 2023 / Room: Dreams 1 | |
| Session Chairs: Russel Reiter ; Session Monitor: TBA | |

11:30: [OxidativeThuAM01] OS Keynote

MELATONIN AND ITS METABOLITES: MAJOR CONTRIBUTORS TO THE MAINTENANCE OF CELLULAR REDOX HOMEOSTASIS - Part 1

Russel Reiter¹; Ramaswamy Sharma¹; Gang Huang¹; ¹UT Health San Antonio, San Antonio, United States;

Paper ID: 157

11:55: [OxidativeThuAM02] OS Keynote

MELATONIN AND ITS METABOLITES: MAJOR CONTRIBUTORS TO THE MAINTENANCE OF CELLULAR REDOX HOMEOSTASIS - Part 2

Russel Reiter¹; Ramaswamy Sharma¹; Gang Huang¹; ¹UT Health San Antonio, San Antonio, United States;

Paper ID: 148

12:20: [OxidativeThuAM03] OS

A SUSTAINABLE CARBON-BASED PLATFORM FOR INTERVENTION IN NEURODEGENERATION

Mahesh Narayan¹; ¹The University of Texas at El Paso, El Paso, United States;

Paper ID: 4

12:45: [OxidativeThuAM04] OS

EFFECTS OF NATIVE AND PARTICULATE FLAVONOIDS ON DNA DAMAGE AND CELL VIABILITY AFTER UV-C EXPOSURE

Tatyana Kostyuk¹; Alla Potapovich¹; Tatyana Shutava²; **Vladimir Kostyuk**¹;
¹Byelorussian State University, Minsk, Belarus; ²Institute of Chemistry of New Materials, Minsk, Belarus;

Paper ID: 210

13:10 LUNCH

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:
IronThuAM-R2

Assis International Symposium (9th Intl.
Symp. on Advanced Sustainable **Iron &
Steel Making**)

Thu. 30 Nov. 2023 / Room: **Dreams 2**

Session Chairs: Wilson **Ferreira Santos Jr.**; Session Monitor: TBA

11:30: [IronThuAM01] OS Keynote

CHALLENGES FACING DECARBONIZATION OF GLOBAL STEEL PRODUCTION

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

Paper ID: 76

11:55: [IronThuAM02] OS

ANALYSIS OF THE HYDROGEN GAS AS FUEL FOR LARGE BLAST FURNACES USING A COMPREHENSIVE MULTIPHASE NUMERICAL SIMULATION APPROACH

Jose Adilson De Castro¹; Giulio Antunes De Medeiros²; Elizabeth Oliveira³; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil; ²UFF-Programa de Pos Graduação em Engenharia Metalúrgica, Volta Redonda, Brazil; ³Center for Technological Education Celso Suckow da Fonseca, Valença, Brazil;

Paper ID: 68

12:20: [IronThuAM03] OS

EVALUATION OF THE REDUCTIONS IN ATMOSPHERIC AND GREENHOUSE GAS EMISSIONS BY USING A CONVEYOR BELT MINING SYSTEM IN AN OPEN PIT MINE

Douglas Emerich Gonçalves Oliveira¹; Thais De Faria Bravin¹; Gabriel Patricio De Souza Rezende¹; Eduardo Antonio Silva Baeta¹; ¹Samarco Sa, Belo Horizonte, Brazil;

Paper ID: 313

12:45: [IronThuAM04] OS

ANALYSIS OF THE PERFORMANCE OF SHAFT FURNACES WITH PARTIAL REPLACEMENT OF THE BURDEN WITH SELF-REDUCING PELLETS CONTAINING BIOMASS

Jose Adilson De Castro¹; Giulio Antunes De Medeiros²; ¹UFF - Federal Fluminense University, Volta Redonda, Brazil; ²UFF-Programa de Pos Graduação em Engenharia Metalúrgica, Volta Redonda, Brazil;

Paper ID: 70

13:10 LUNCH

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:

NanomaterialsThuAM-R3

Echegoyen International Symposium
(8th Intl. Symp. on Synthesis & Properties
of **Nanomaterials** for Future Energy
Demands)

Thu. 30 Nov. 2023 / Room: **Dreams 3**

Session Chairs: Miguel A. **Alario Franco**; Mark **Hersam**; Session Monitor: TBA

11:30: [NanomaterialsThuAM01] OS

SIZE DOES MATTER... IN SOLID STATE CHEMISTRY; THE CASE OF THE RARE EARTHS

Miguel A. Alario Franco¹; ¹Complutense University of Madrid, Madrid, Spain;
Paper ID: 96

11:55: [NanomaterialsThuAM02] OS

Mixed-Dimensional Heterostructures for Electronic and Energy Technologies

Mark Hersam¹; ¹Northwestern University, Evanston, United States;
Paper ID: 7

12:20: [NanomaterialsThuAM03] OS

SYNTHESIS OF ATOMICALLY PRECISE GRAPHENE NANOSTRUCTURES AND MODULATION OF THEIR PHOTOPHYSICAL PROPERTIES

Akimitsu Narita¹; ¹Okinawa Institute of Science and Technology Graduate University, Okinawa, Japan;
Paper ID: 54

12:45: [NanomaterialsThuAM04] OS

MULTIPURPOSE SUPRAMOLECULAR NANOCAPSULES: FROM PURIFICATION OF URANIUM-BASED EMFs TO MASKS FOR FULLERENE REGIOFUNCTIONALIZATION

Xavi Ribas¹; Josep Maria Poblet²; Luis Echegoyen³; Carles Fuertes-Espinosa¹;
¹University of Girona, Girona, Spain; ²Universitat Rovira i Virgili (URV), Tarragona, Spain; ³American Chemical Society, El Paso, United States;
Paper ID: 423

13:10 LUNCH

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:

SolidStateChemistryThuAM-R4

Poepelmeier International Symposium
(3rd Intl Symp on **Solid State Chemistry** for Applications & Sustainable Development)

Thu. 30 Nov. 2023 / Room: **Dreams 4**

Session Chairs: Riccardo **Freccero**; Session Monitor: TBA

11:30: [SolidStateChemistryThuAM01] OS

CHEMICAL PATTERNING OF GRAPHENE AND GRAPHITE: FROM MICROSCALE TO NANOSCALE

Kunal Mali¹; **Steven De Feyter**²; ¹KU Leuven, Belgium, Leuven, Belgium; ²KU Leuven, Leuven, Belgium;

Paper ID: 288

11:55: [SolidStateChemistryThuAM02] OS Invited

NEW INSIGHTS INTO THE CHEMISTRY OF RARE EARTH INTERMETALLIC COMPOUNDS: FROM FUNDAMENTAL TO APPLIED RESEARCH

Riccardo Freccero¹; Pavlo Solokha¹; Serena De Negri¹; ¹Department of Chemistry and Industrial Chemistry, University of Genoa, Genoa, Italy;

Paper ID: 320

12:20: [SolidStateChemistryThuAM03] OS

REACTION SYNTHESIS MECHANISMS IN BINARY METALLIC SYSTEMS UNDER INTENSE SHOCK LOADING

Fernand Marquis¹; ¹Integrated Materials Technologies and Systems (IMTS), United States;

Paper ID: 347

12:45: [SolidStateChemistryThuAM04] OS Invited

QUANTUM-CLASSICAL MECHANICS AND NATURE OF THE FRANCK-CONDON PRINCIPLE

Vladimir Egorov¹; ¹FSRS "Crystallography and Photonics" Rus Acad Sci, Photochemistry Center, Moscow, Russian Federation;

Paper ID: 269

13:10 LUNCH

08:00 SUMMIT PLENARY

11:10 BREAK

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| SESSION: AdvancedMaterialsThuAM-R5 | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| Thu. 30 Nov. 2023 / Room: Heliconia | |
| Session Chairs: Fernand Marquis ; Session Monitor: TBA | |

11:30: [AdvancedMaterialsThuAM01] OS Keynote

LIGHTWEIGHT BEYOND BELIEF – HOW PEO ULTRACERAMICS®, TAILORED POLYMERS AND LASER LIGHT ENABLE AMAZING APPLICATIONS

Anna Buling¹; ¹ELB Helmut Zerrer GmbH, Ludwigsburg, Germany;

Paper ID: 165

11:55: [AdvancedMaterialsThuAM02] OS

SUSTAINABLE AND BIODEGRADABLE ADSORBENT MATERIALS FOR ENVIRONMENTAL POLLUTANTS

Anita Trajkovska-Broach¹; Anka Trajkovska Petkoska²; ¹Scientist/Consultant, CSI: Create. Solve. Innovate. LLC, Blacksburg, United States; ²Full Professor, Veles, Macedonia (Former Yugoslav Republic of Macedonia);
Paper ID: 239

12:20: [AdvancedMaterialsThuAM03] OL

ANN-supported CONTROL STRATEGY FOR A SOLID OXIDE FUEL CELL WORKING ON DEMAND FOR A PUBLIC UTILITY BUILDING

Jaroslaw Milewski¹; ¹Warsaw University of Technology, Warsaw, Poland;
Paper ID: 203

12:45: [AdvancedMaterialsThuAM04] OS

RECYCLABLE LEAD-FREE RADIATION SHIELDING MATERIALS WITH SUPERIOR PROTECTION AGAINST MEDICAL DIAGNOSTIC X RAYS

Anita Trajkovska-Broach¹; Melissa Agguini²; Dave Arnold³; Leeann Fachko⁴; Andrew Skaggs⁵; ¹Scientist/Consultant, CSI: Create. Solve. Innovate. LLC, Blacksburg, United States; ²Vice President Marketing and Product Management, Newport News, United States; ³Product Development, Newport News, United States; ⁴CEO, Newport News, United States; ⁵VP Operations, Newport News, United States;
Paper ID: 285

13:10 LUNCH

08:00 SUMMIT PLENARY

11:10 BREAK

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| SESSION: BatteryThuAM-R6 | Kumar international Symposium (8th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling) |
| Thu. 30 Nov. 2023 / Room: Orchid | |
| <u>Session Chairs:</u> Vasant Kumar ; <u>Session Monitor:</u> TBA | |

11:30: [BatteryThuAM01] OS Plenary

EXERGY ANALYSIS AND EXERGY GRAVIMETRIC ANALYSIS FOR DESIGNING FUEL CELL - BATTERY SYSTEMS

P.V. Aravind¹; ¹University of Groningen, Groningen, Netherlands;
Paper ID: 492

11:55: [BatteryThuAM02] OS

CLEAN UTILISATION OF NATURALLY AVAILABLE MATERIALS FOR LOW-COST ENERGY STORAGE APPLICATIONS

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

13:10 LUNCH

08:00 SUMMIT PLENARY

11:10 BREAK

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| SESSION: MineralThuAM-R7 | Torem International Symposium (8th Intl. Symp. on Sustainable Mineral Processing) |
| Thu. 30 Nov. 2023 / Room: Sunflower | |
| <u>Session Chairs:</u> Marcos De Campos ; <u>Session Monitor:</u> TBA | |

11:30: [MineralThuAM01] OS

**VIBRATIONAL SPECTROSCOPY OF NANOBIOSYSTEMS AND CONCEPT OF
RESONANCE THERAPY**

Paata Kervalishvili¹; ¹Georgian Technical University, Tbilisi, Georgia;
Paper ID: 198

11:55: [MineralThuAM02] OS

LEPTONS BASED QUANTUM COMPUTING

Paata Kervalishvili¹; ¹Georgian Technical University, Tbilisi, Georgia;
Paper ID: 199

12:20: [MineralThuAM03] OS

**AMELIORATIVE INFLUENCE OF SALICYLIC ACID ON PHYSIOLOGY OF POTATO
TUBERS UNDER SALINITY (HEAVY METALS SALTS) AND CLIMATE CHANGE
SCENARIO.**

Iqtidar Hussain¹; ¹Gomal University, Dera Ismail Khan, Pakistan;
Paper ID: 399

12:45: [MineralThuAM04] OS

**UN PACKING THE NEXUS BETWEEN HYDROLOGICAL CLIMATE CHANGE AND
RURAL EMIGRATION IN CAMEROON**

Asongacap David Nvenache¹; Malafa Daniel Ikome²; Roland Atembe³; ¹University of
Buea, Buea, Cameroon; ²LEROYETTE INSTITUTE FOR SUSTAINABLE
DEVELOPMENT, Kumba Il Meme, Cameroon; ³University of Innsbruck, Innsbruck,
Cameroon;
Paper ID: 335

13:10 LUNCH

08:00 SUMMIT PLENARY

11:10 BREAK

SESSION:

MathematicsThuAM-R9

6th Intl. Symp. on Sustainable

Mathematics Applications

Thu. 30 Nov. 2023 / Room: **Showroom**

Session Chairs: Ruggero Maria **Santilli**; Mike **Mikalajunas**; Session Monitor: TBA

11:30: [MathematicsThuAM01] OL

THE SYNTHESIS OF THE NEUTRON FROM THE HYDROGEN IN THE CORE OF STARS AND ITS IMPLICATIONS FOR NEW CLEAN ENERGIES

Simone Beghella Bartoli¹; ¹Hadronic Technologies Corporation, Montelupone, Italy;

Paper ID: 376

11:55: [MathematicsThuAM02] OL

AN ENGINEERING REVIEW ON THE NOVEL NUCLEAR HYPERFUSIONS WITHOUT COULOMB BARRIER

Simone Beghella Bartoli¹; ¹Hadronic Technologies Corporation, Montelupone, Italy;

Paper ID: 378

12:20: [MathematicsThuAM03] OL

WHY HYPERSTRUCTURES, HV-STRUCTURES, CAN PROPERLY EXPRESS THE LIE-SANTILLY'S ADMISSIBILITY

Thomas Vougiouklis¹; ¹Democritus University of Thrace, Xanthi, Greece;

Paper ID: 384

12:45: [MathematicsThuAM04] OL Keynote

ORIGINAL LIE ALGEBRA BEHIND REAL STRUCTURE, TEMPLATE AND INTERACTIVE COMPUTER SYSTEM OF THE CHEMICAL ELEMENTS, COMPOUNDS AND COMPOSITIONS

Erik Trell¹; ¹Linköping University, Linköping, Sweden;

Paper ID: 443

13:10 LUNCH

Friday

SESSION:

MedicineFriAM1-R1

2nd Intl. Symp. on Technological
Innovations in **Medicine** for Sustainable
Development

Fri. 1 Dec. 2023 / Room: **Dreams 1**

Session Chairs: Hans **Leuenberger**; Session Monitor: TBA

08:15: [MedicineFriAM101] OS

AN ALGEBRAIC APPROACH TO MOLECULAR MODELING AND ITS APPLICATION IN CELL APOPTOSIS PROCESS RESEARCH

Oleksandr Letychevskyi¹; Yuliia Tarasich¹; Volodymyr Peschanenko²; ¹V.M.Glushkov Institute of Cybernetics of the NAS of Ukraine, Kyiv, Ukraine; ²Private Enterprise LitSoft, Kherson, Ukraine;

Paper ID: 223

08:40: [MedicineFriAM102] OL

SEROPREVALENCE OF HBV/HCV-HIV, EFFECT OF HEPATITIS B OR C ON HIV PATIENTS AND ASSOCIATED RISK FACTORS DURING ANTI-RETROVIRAL THERAPY IN HIV PATIENTS

Adamu Ndongho Ndifontaiyong¹; ¹UNIVERSITY OF DSCHANG, KUMBA, Cameroon;

Paper ID: 215

09:55 BREAK

SESSION:

IronFriAM1-R2

Assis International Symposium (9th Intl.
Symp. on Advanced Sustainable **Iron &
Steel Making**)

Fri. 1 Dec. 2023 / Room: **Dreams 2**

Session Chairs: Marcos **De Campos**; Session Monitor: TBA

08:15: [IronFriAM101] OS

MODELING OF LARGE SCALE INDUSTRIAL REACTORS INVOLVED IN Iron/Steelmaking IN AN INNOVATIVE WAY

Ajay Shukla¹; ¹IIT Madras, CHENNAI, India;

Paper ID: 469

08:40: [IronFriAM102] OS Keynote

CRITICAL POINTS OF CHANGE OVER TO CHAOTIC DYNAMICS DURING A BLOW IN BOF

Brahma Deo¹; ¹IIT BHUBANESWAR, JATNI, India;

Paper ID: 162

09:05: [IronFriAM103] OS Keynote

NOVEL AND ADVANCED SIMULATION TECHNOLOGIES SUPPORTING SUSTAINABLE IRON MAKING

Bernhard Peters¹; ¹University of Luxembourg, Luxembourg, Luxembourg;

Paper ID: 201

09:30: [IronFriAM104] OS Keynote

CONTRIBUTION TO DECARBONIZING THE STEEL PROCESS THROUGH INNOVATIVE CO₂ TO CO TECHNOLOGY

Keisuke Iijima¹; **Yuki Nakama**¹; Noritoshi Yagihashi¹; Tsuyoshi Tono¹; Wim Van Der Stricht²; Marcos Cano Bertiz³; ¹SEKISUI CHEMICAL CO.,LTD, Tsukuba-shi, Japan;

²ArcelorMittal, 9042 Gent, Belgium; ³ArcelorMittal, Asturias, Spain;

Paper ID: 229

09:55 BREAK

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| SESSION: IronFriAM2-R2 | Assis International Symposium (9th Intl. Symp. on Advanced Sustainable Iron & Steel Making) |
| Fri. 1 Dec. 2023 / Room: Dreams 2 | |
| <u>Session Chairs:</u> Tateo Usui ; <u>Session Monitor:</u> TBA | |

10:20: [IronFriAM205] OL

MORTALITY RATE OF MELANOIDES TUBERCULATA IN FRONT OF DIFFERENT LAMPS

Sueli Abrão¹; Ana Batoni¹; Álisson Leal²; Bárbara Lucas²; Caroline Rezende²; João Martins²; Leonardo Lages²; Luciano Paiva²; Ana Senhuk²; **Afonso Pelli**²;

¹Universidade Federal do Triângulo Mineiro, Uberaba, Brazil; ²PPGCTA / Universidade Federal do Triângulo Mineiro, Uberaba, Brazil;

Paper ID: 364

10:45: [IronFriAM206] OS Plenary

A LIFELONG RELATION: GALVANIZED STEEL - HOW STEEL AND ZINC CONTRIBUTE TO SUSTAINABLE DEVELOPMENT

Arun Misra¹; Pradeep Singh¹; Shama Jain¹; Andrew Green²; Sabina Grund²; Eric Van Genderen²; ¹Hindustan Zinc Limited, Udaipur, India; ²International Zinc Association, Durham, United States;

Paper ID: 219

11:10: [IronFriAM207] OL

IMPROVEMENT OF BLAST FURNACE SMELTING USING DIGITAL TECHNOLOGIES

Andrey Dmitriev¹; Galina Vitkina²; Maxim Zolotykh²; ¹Russian Academy of Sciences - Ural, Ekaterinburg, Russian Federation; ²Institute of Metallurgy of Ural Branch of Russian, Amundsen st., Russia;

Paper ID: 10

11:35: [IronFriAM208] OL

IMPROVEMENT OF THE MATHEMATICAL MODEL OF HEAT EXCHANGE OF THE BLAST FURNACE PROCESS TAKING INTO ACCOUNT THE USE OF SYNTHESIS GAS

Andrey Dmitriev¹; Galina Vitkina²; Nicolay Barbin³; Roman Alektorov³; ¹Russian Academy of Sciences - Ural, Ekaterinburg, Russian Federation; ²Institute of Metallurgy of Ural Branch of Russian, Amundsen st., Russia; ³Institute of Metallurgy of the Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russian Federation;
Paper ID: 24

12:00 LUNCH

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|---|--|
| SESSION: IronFriPM1-R2 | Assis International Symposium (9th Intl. Symp. on Advanced Sustainable Iron & Steel Making) |
| Fri. 1 Dec. 2023 / Room: Dreams 2 | |
| <u>Session Chairs:</u> Vladimir Tsepelev ; <u>Session Monitor:</u> TBA | |

13:00: [IronFriPM109] OL

NEW ASPECTS IN THE TECHNOLOGY OF PRODUCING IRON-BASED NANOCRYSTALLINE MAGNETOWIRES WITH UNIQUE PROPERTIES

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: 90

13:25: [IronFriPM110] OS

CONTROLLING STACK DUST EMISSION FROM SINTER PLANT – TOWARDS A SUSTAINABLE FUTURE

Debanik Mitra¹; K Akshay²; Surajit Sinha²; Pradeep Chaudhary²; ¹Tata Steel Limited, India, Jamshedpur, India; ²Tata Steel Limited, Jamshedpur, India;
Paper ID: 256

13:50: [IronFriPM111] OS

USE OF WASTE PRODUCED IN PRODUCTION WITH ELECTRIC ARC FURNACE

Davi Henrique Tomé Kanno Vieira¹; ¹UFOP - Federal University of Ouro Preto - School of Mines, Belo Horizonte, Brazil;
Paper ID: 294

14:40 BREAK

SESSION:
NanomaterialsFriAM1-R3

Echegoyen International Symposium
(8th Intl. Symp. on Synthesis & Properties
of **Nanomaterials** for Future Energy
Demands)

Fri. 1 Dec. 2023 / Room: **Dreams 3**

Session Chairs: Ovidiu **Crisan**; Session Monitor: TBA

08:15: [NanomaterialsFriAM101] OS

HYBRID L10 PHASE MAGNETIC NANOSTRUCTURES FOR SPINTRONIC DEVICES

Ovidiu Crisan¹; ¹National Institute for Materials Physics, Magurele, Romania;

Paper ID: 232

08:40: [NanomaterialsFriAM102] OS

HYBRID PORPHYRIN MATERIALS: a WIN-WIN MARRIAGE for CHEMICAL SENSORS

Roberto Paolesse¹; ¹University of Rome Tor Vergata, Rome, Italy;

Paper ID: 6

09:05: [NanomaterialsFriAM103] OL

NANOFLUORIDES IN MATERIAL SCIENCES, ENERGY SYSTEMS, PHOTONICS, AND MEDICINAL CHEMISTRY

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

Paper ID: 78

09:30: [NanomaterialsFriAM104] OS

SELF-ASSEMBLED PEPTIDE MATERIALS AS SUPRAMOLECULAR HYDROGELS AND BIOCOMPATIBLE MATERIALS

Javier Montenegro¹; ¹Universidad de Santiago de Compostela, Santiago de Compostela, Spain;

Paper ID: 62

09:55 BREAK

SESSION:
NanomaterialsFriAM2-R3

Echegoyen International Symposium
(8th Intl. Symp. on Synthesis & Properties
of **Nanomaterials** for Future Energy
Demands)

Fri. 1 Dec. 2023 / Room: **Dreams 3**

Session Chairs: Yutaka **Matsuo**; Session Monitor: TBA

10:20: [NanomaterialsFriAM205] OS

REVERSAL OF MAGNETIZATION IN PERMANENT NANOCRYSTALLINE MAGNETS

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

Paper ID: 293

10:45: [NanomaterialsFriAM206] OL

THE POSSIBLE UTILIZATION OF BIOLOGICAL NANO-LOGIC CIRCUITS IN THE INTEGRATION AND REGULATION OF DNA REPAIR

Philip G. Penketh¹; ¹Yale University, School of Medicine, Pharmacology Department, New Haven, United States;

Paper ID: 454

11:10: [NanomaterialsFriAM207] OS

BREAKING MOLECULES TO USE THEM BROKEN

Juan Casado¹; ¹University of Málaga, Málaga, Spain;

Paper ID: 42

11:35: [NanomaterialsFriAM208] OS

SYNTHESIS AND INVESTIGATION OF CANDLE CARBON SOOT: COST EFFECTIVE MATERIAL

Shivani Dhall¹; ¹DAV College, Jalandhar, Punjab, India, Kurukshetra, India;

Paper ID: 326

12:00 LUNCH

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|---|---|
| SESSION: NanomaterialsFriPM1-R3 | Echegoyen International Symposium (8th Intl. Symp. on Synthesis & Properties of Nanomaterials for Future Energy Demands) |
| Fri. 1 Dec. 2023 / Room: Dreams 3 | |
| Session Chairs: Akimitsu Narita ; Session Monitor: TBA | |

13:00: [NanomaterialsFriPM109] OS Keynote

ORGANIC CHARGE TRANSPORTING-LAYERS IN PEROVSKITE SOLAR CELLS

Juan Luis Delgado¹; ¹Polymat, Donostia-San Sebastian, Spain;

Paper ID: 77

13:25: [NanomaterialsFriPM110] OS

POLYOXOMETALATES AND GUEST-HOST KEPLERATE SUPRAMOLECULES AS INORGANIC FUNCTIONAL MIMICS OF REDOX METALLOENZYMES

Ronny Neumann¹; ¹Weizmann Institute of Science, Rehovot, Israel;

Paper ID: 167

13:50: [NanomaterialsFriPM111] OS

HYDROGEN PRODUCTION SYSTEMS, FROM NANOSCALE TO A REAL DEMONSTRATION PROJECT

Pau Farras¹; ¹University of Galway, Galway, Ireland;

Paper ID: 99

14:40 BREAK

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|---|---|
| SESSION: NanomaterialsFriPM2-R3 | Echegoyen International Symposium (8th Intl. Symp. on Synthesis & Properties of Nanomaterials for Future Energy Demands) |
| Fri. 1 Dec. 2023 / Room: Dreams 3 | |
| <u>Session Chairs:</u> Ira Weinstock ; <u>Session Monitor:</u> TBA | |

15:10: [NanomaterialsFriPM213] OS
MECHANISM OF ELECTRICAL TRANSPORT IN OXIDE GLASS SYSTEMS: A VIEWPOINT THROUGH MODEL-FREE SCALING PROCEDURES
Luka Pavić¹; Jana Pisk²; ¹Ruđer Bošković Institute, Zagreb, Croatia; ²Depart of Chemistry, Faculty of Science, University of Zagreb, Zagreb, Croatia;
Paper ID: 311

15:35: [NanomaterialsFriPM214] OS Invited
EXPLORING CHEMICAL TOOLS FOR CARBON NANOTUBES AND 2D MATERIALS
Emilio M. Perez¹; ¹IMDEA Nanociencia, Madrid, Spain;
Paper ID: 330

16:25: [NanomaterialsFriPM216] OS
ACTINIDE ENDOHEDRAL FULLERENES: CLUSTERS AND NOVEL BONDING BEHAVIORS INSIDE FULLERENE CAGES
Ning Chen¹; ¹Soochow University, China, Suzhou, China;
Paper ID: 214

16:50 BREAK

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|---|---|
| SESSION: NanomaterialsFriPM3-R3 | Echegoyen International Symposium (8th Intl. Symp. on Synthesis & Properties of Nanomaterials for Future Energy Demands) |
| Fri. 1 Dec. 2023 / Room: Dreams 3 | |
| <u>Session Chairs:</u> TBA; <u>Session Monitor:</u> TBA | |

17:20: [NanomaterialsFriPM317] OS
CONVERSION REACTION MECHANISM IN 2H-MoS₂/MXene HETEROSTRUCTURE TO IMPROVE THE PERFORMANCE OF NH₄⁺-BASED ENERGY STORAGE
Muhammad Sufyan Javed¹; Xiaofeng Zhang²; Weihua Han²; ¹Lanzhou University, Lanzhou, China; ²Lanzhou University, Lanzhou, China;
Paper ID: 429

17:45: [NanomaterialsFriPM318] OS

BAND ENGINEERING IN Ti₂N/Ti₃C₂T_x-MXene INTERFACE LEADS TO ENHANCE THE PERFORMANCE OF AQUEOUS NH₄⁺-ion HYBRID SUPERCAPACITORS

Xiaofeng Zhang¹; Muhammad Sufyan Javed²; Weihua Han¹; ¹Lanzhou University, Lanzhou, China; ²Lanzhou University, Lanzhou, China;
Paper ID: 430

19:00 DINNER

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|---|---|
| SESSION: SolidStateChemistryFriAM1-R4 | Poepelmeier International Symposium (3rd Intl Symp on Solid State Chemistry for Applications & Sustainable Development) |
| Fri. 1 Dec. 2023 / Room: Dreams 4 | |
| Session Chairs: Richard Dronskowski ; Session Monitor: TBA | |

08:15: [SolidStateChemistryFriAM101] OS Keynote
QUEST FOR NEW QUANTUM STATES VIA MAGNETO-SYNTHESIS
Gang Cao¹; ¹University of Colorado at Boulder, Boulder, United States;
Paper ID: 427

08:40: [SolidStateChemistryFriAM102] OS
THE J-BAND OF J-AGGREGATES AS THE EGOROV NANO-RESONANCE
Vladimir Egorov¹; ¹FSRS "Crystallography and Photonics" Rus Acad Sci, Photochemistry Center, Moscow, Russian Federation;
Paper ID: 268

09:05: [SolidStateChemistryFriAM103] OS
SUSTAINABLE DEVELOPMENT VIA INNOVATIVE RARE METAL TECHNOLOGIES
Konstantin Ivanovskikh¹; Andrey Golinyev¹; ¹GIREDMET State Research & Design Institute of Rare Metal Industry, JSC, Moscow, Russian Federation;
Paper ID: 410

09:55 BREAK

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| SESSION: AdvancedMaterialsFriAM1-R5 | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| Fri. 1 Dec. 2023 / Room: Heliconia | |
| Session Chairs: Fernand Marquis ; Session Monitor: TBA | |

08:15: [AdvancedMaterialsFriAM101] OS Keynote
RELIABILITY PHYSICS OF ELECTRONIC AND PHOTONIC MATERIALS AND PRODUCTS, AND THE ROLE OF THE PROBABILISTIC-DESIGN-FOR RELIABILITY (PdFR) CONCEPT

Ephraim Suhir¹; ¹Bell Laboratories, Murray Hill, NJ, California, United States;
Paper ID: 207

08:40: [AdvancedMaterialsFriAM102] OS Keynote
CLAY-BASED CATALYST SUPPORT FOR MICROCHANNEL REACTORS
Grover Coors¹; ¹Hydrogen Helix, Golden, Colorado, United States;
Paper ID: 274

09:05: [AdvancedMaterialsFriAM103] OS
ENGINEERING AT THE NANOSCALE: A STRATEGY FOR DEVELOPING HIGH PERFORMANCE FUNCTIONAL MATERIALS FROM BIOPOLYMERS
Sabu Thomas¹; ¹Mahatma Gandhi University, Kerala, India;
Paper ID: 26

09:30: [AdvancedMaterialsFriAM104] OS Keynote
SILICA BASED NANOMATERIALS FOR SENSOR AND ENVIRONMENTAL APPLICATIONS
Aleksandra Lobnik¹; ¹University of Maribor, Center of Sensor Technology, maribor, Slovenia, 2000 Maribor, Slovenia;
Paper ID: 308

09:55 BREAK

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| SESSION: AdvancedMaterialsFriAM2-R5 | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| Fri. 1 Dec. 2023 / Room: Heliconia | |
| <u>Session Chairs:</u> Fernand Marquis ; <u>Session Monitor:</u> TBA | |

10:20: [AdvancedMaterialsFriAM205] OS
A UNIFIED FORMULA FOR THE VISCOSITY OF POLYMER SOLUTION
Angyang Yu¹; ¹Jilin Agricultural University, Changchun; China. 130118, Changchun, China;
Paper ID: 365

10:45: [AdvancedMaterialsFriAM206] OS Keynote
DELINEATING BENIGN POLYMER PROCESSING IN SUPERCRITICAL FLUIDS
Mohd Ghulam Haider Zaidi¹; ¹Department Of Chemistry, G.B.Pant university of Agriculture & Technology,, Pantnagar, India;
Paper ID: 236

11:10: [AdvancedMaterialsFriAM207] OS Invited
STUDY OF RADIATION INDUCED EFFECTS ON THE POLYMERIC MATERIALS
Ram Bhosale¹; ¹ACS College, Dharur, Beed, India;
Paper ID: 264

11:35: [AdvancedMaterialsFriAM208] OS

SYSTEM FOR DETECTION THE TREATS FROM EXPLOSIONS, FIRES AND TOXIC GASES IN TUNNELS

Nikoloz Chikhradze¹; Edgar Mataradze²; Mikheil Chikhradze³; Fernand Marquis⁴; Nika Bochorishvili²; ¹G. Tsulukidze Mining Institute, Tbilisi, Georgia; ²LEPL Grigol Tsulukidze Mining Institute, Tbilisi, Georgia; ³Georgian Technical University, Tbilisi, Georgia;

⁴Integrated Materials Technologies and Systems (IMTS), United States;

Paper ID: 184

12:00 LUNCH

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| SESSION: AdvancedMaterialsFriPM1-R5 | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| Fri. 1 Dec. 2023 / Room: Heliconia | |
| <u>Session Chairs:</u> Fernand Marquis ; <u>Session Monitor:</u> TBA | |

13:00: [AdvancedMaterialsFriPM109] OS

ECO-EFFICIENT DISRUPTIVE INVENTION WITH THE CREATION OF MCFFP. - MINI CENTRAL OF FILLING AND FINISHER OF PRODUCTS

Darlan Santos De Alencar Junior¹; ¹BIOCERR - Biodegradáveis Cerrado, Goiania, Brazil;

Paper ID: 328

13:25: [AdvancedMaterialsFriPM110] OS

INNOVATIVE NEW PHOTO-ELECTROCHEMICAL TECHNOLOGY FOR PURIFICATION OF INDOOR AIR

Yogi Goswami¹; ¹University of South Florida, Florida, United States;

Paper ID: 332

13:50: [AdvancedMaterialsFriPM111] OS Keynote

HOLISTIC APPROACH TO REDUCING CARBON FOOTPRINT

R. M. Gamini Rajapakse¹; ¹University of Peradeniya, Peradeniya, Sri Lanka;

Paper ID: 247

14:15: [AdvancedMaterialsFriPM112] OS

RECYCLING AND PROCESSING OF PERMANENT MAGNETS FOR SUSTAINABLE ENERGY DEVELOPMENT

Kristina Zuzek-Rozman¹; Xuan Xu¹; Tomaž Tomše²; Sina Khoshima³; Amit Mishra³; Mihaela Rebernik³; Saso Sturm⁴; ¹Jozef Stefan Institute, Ljubljana, Slovenia; ²Jožef Stefan Institute, Ljubljana, Slovenia; ³Jozef Stefan Institute, Ljubljana, Slovenia; ⁴Head of Department for Nanostructured Materials, Ljubljana, Slovenia;

Paper ID: 366

14:40 BREAK

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| SESSION: AdvancedMaterialsFriPM2-R5 | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| Fri. 1 Dec. 2023 / Room: Heliconia | |
| <u>Session Chairs:</u> Fernand Marquis ; <u>Session Monitor:</u> TBA | |

15:10: [AdvancedMaterialsFriPM213] OS Keynote
SPINTRONIC AND SPINQUBIT NANOSTRUCTURES FOR QUANTUM DEVICES
Paata Kervalishvili¹; ¹Georgian Technical University, Tbilisi, Georgia;
Paper ID: 243

16:50 BREAK

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| SESSION: MineralFriAM1-R7 | Torem International Symposium (8th Intl. Symp. on Sustainable Mineral Processing) |
| Fri. 1 Dec. 2023 / Room: Sunflower | |
| <u>Session Chairs:</u> Fernando Jose Gomes ; <u>Session Monitor:</u> TBA | |

08:15: [MineralFriAM101] OS
GEOMETALLURGICAL CHARACTERIZATION AND MODELLING AT SAN GABRIEL PROJECT
Fernando Zeballos¹; ¹Buenaventura Company, Lima, Peru;
Paper ID: 133

08:40: [MineralFriAM102] OS Keynote
COMPOSITE HYDROGELS AND THEIR RAISED VISIBILITY IN MARKETS
Haldun Kurama¹; ¹Eskisehir Osmanagzi University, Eskisehir, Turkey;
Paper ID: 267

09:05: [MineralFriAM103] OS
RECYCLING OF ANTHROPOGENIC AND INDUSTRIAL WASTES FOR CRITICAL METAL EXTRACTION
Abhilash¹; Pratima Meshram²; ¹CSIR-National Metallurgical Laboratory, Jharkhand, India; ²CSIR National Metallurgical Laboratory, Jamshedpur, India;
Paper ID: 136

09:30: [MineralFriAM104] OS
REFLECTIONS ON THE POVERTY- ENVIRONMENT DILEMMA IN AFRICA
Bienvenu Mbiye Kalumbu¹; ¹Ministry of Scientific Research and Innovation in New technology, KINJSHASA, Congo;
Paper ID: 421

09:55 BREAK

SESSION:
MineralFriAM2-R7

Torem International Symposium (8th
Intl. Symp. on Sustainable **Mineral**
Processing)

Fri. 1 Dec. 2023 / Room: **Sunflower**

Session Chairs: TBA; Session Monitor: TBA

10:20: [MineralFriAM205] OS

THE EFFECT OF WATER QUALITY ON RARE EARTH MINERAL FLOTATION

Bogale Tadesse¹; Moonchul Jung¹; Boris Albijanic¹; Laurence Dyer¹; ¹Curtin
University, Kalgoorlie, Australia;
Paper ID: 17

12:00 LUNCH

SESSION:
PhysicsFriAM1-R9

2nd Intl Symp on **Physics**, Technology &
Interdisciplinary Research for Sustainable
Development

Fri. 1 Dec. 2023 / Room: **Showroom**

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

08:15: [PhysicsFriAM101] OS

NOVEL ANTIFERROMAGNETIC SEMIMETAL CuMnAs FOR SPINTRONICS APPLICATIONS

Karel Carva¹; ¹Charles University, Praha 2, Czech Republic;
Paper ID: 394

08:40: [PhysicsFriAM102] OS

THEORETICAL AND EXPERIMENTAL STUDY OF HYDROTHERMAL GROWN NANORODS

Aniruddh Bahadur Yadav¹; ¹Velagapudi Ramakrishna, Andhra Pradesh, India;
Paper ID: 163

09:05: [PhysicsFriAM103] OS

NANOSCIENCE AND NANOTECHNOLOGY AND THEIR APPLICATIONS TO SUSTAINABLE DEVELOPMENT AND UNITED NATIONS' SUSTAINABLE DEVELOPMENT GOALS

Hilmi S. Salem¹; ¹Sustainable Development Research Institute, Bethlehem, Palestinian Territory, Occupied;
Paper ID: 146

09:30: [PhysicsFriAM104] OS

SMART FARMING AND SEED TECHNOLOGIES FOR SUSTAINABLE DEVELOPMENT

Devinder Pal Singh¹; ¹Acoustics Research Center, Mississauga, Canada;
Paper ID: 155

09:55 BREAK

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| SESSION: PhysicsFriAM2-R9 | 2nd Intl Symp on Physics , Technology & Interdisciplinary Research for Sustainable Development |
| Fri. 1 Dec. 2023 / Room: Showroom | |
| <u>Session Chairs:</u> TBA; <u>Session Monitor:</u> TBA | |

10:20: [PhysicsFriAM205] OS

**IMPROVING THE FATIGUE DESIGN OF MECHANICAL SYSTEMS SUCH AS
REFRIGERATOR**

Seongwoo Woo¹; ¹Technical and Vocational Training Institute (TVTI), Addis Ababa,
Ethiopia;
Paper ID: 149

12:00 LUNCH

Posters

| | |
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| SESSION:IronPoster | Assis International Symposium (9th Intl. Symp. on Advanced Sustainable Iron & Steel Making) |
| | Room: Foyer |
| Poster Session | 28 Nov - 1 Dec, 2023 |

[IronPoster1] **ULTRASONIC WAVES FOR THE CONTROL OF LIMNOPERNA FORTUNEI – THE GOLDEN MUSSEL**

Gislaine Soares Araujo¹; Paulo Assis²; Afonso Pelli³; Ana Cristina De Carvalho¹; Braian Soares Leite Araujo⁴; ¹UFOP, Mariana, Brazil; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil; ³Universidade Federal do Triângulo Mineiro, Uberaba, Brazil; ⁴Universidade Federal de Ouro Preto-Minas Gerais, Mariana, Brazil;
Paper ID: 66

[IronPoster2] **THE PRODUCTION OF STEEL AND THE USE OF BIOMASS AS A RENEWABLE AND CARBON NEUTRAL ENERGY SOURCE**

Ana Cristina De Carvalho¹; Nathália Balzana Anacleto²; Gislaine Soares Araujo¹; Paulo Assis³; ¹UFOP, Mariana, Brazil; ²Programa de Pós-Graduação em Arquitetura e Urbanismo da Universidade Federal Fluminense - PPGAU-UFF, Niterói, Brazil; ³University of Ouro Preto / REDEMAT, Ouro Preto, Brazil;
Paper ID: 87

[IronPoster3] **TIRE INJECTION AS FUEL IN BLAST FURNACES**

Gerson De Araújo Filho¹; Paulo Assis²; ¹Minas Gerais Institute of Water Management, Belo Horizonte, Brazil; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil;
Paper ID: 280

[IronPoster4] **COMPARISON OF TWO PRODUCTION ROUTES OF POLYHYDROXYALKANOATES (PHA) FROM SEWAGE SLUDGE**

Grazielle Pessoa Do Império Borges¹; ¹Universidade Federal de Ouro Preto, Ouro Preto, Brazil;
Paper ID: 283

[IronPoster5] **EVALUATION OF THE INFLUENCE OF GEOMETRIC PARAMETERS ON THE PRODUCTIVITY OF AN ELECTRIC ARC FURNACE FOR THE FESIMN PRODUCTION**

Iago Abreu¹; Paulo Assis²; Paulo Von Kruger³; ¹GRANHA LIGAS/UFOP, Belo Horizonte, Brazil; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil; ³MVK Consultoria e Treinamento, Belo Horizonte, Brazil;
Paper ID: 349

[IronPoster6] **STATE OF THE ART OF DECARBONIZATION IN THE STEEL INDUSTRY**

Luiz Filipe Silva E Souza Leite¹; Paulo Assis²; Danton Heleno Gameiro¹; ¹Ouro Preto School of Mines, UFOP, Ouro Preto, Brazil; ²University of Ouro Preto / REDEMAT,

Ouro Preto, Brazil;
Paper ID: 355

[IronPoster7] **MINING ACTIVITIES IN BRAZIL: STUDIES OF WAYS TO AVOID AND MITIGATE ENVIRONMENTAL IMPACTS CAUSED BY IT UNDER A PERSPECTIVE OF MATERIALS ENGINEERING AND BRAZILIAN LAW**

Gabriela Araujo Gois¹; Raquel Araújo²; Paulo Assis³; ¹UFOP/REDEMAT, Ouro Preto/MG, Brazil; ²UFOP, Ouro Preto, Brazil; ³University of Ouro Preto / REDEMAT, Ouro Preto, Brazil;
Paper ID: 405

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| SESSION:NanomaterialsPoster | Echegoyen International Symposium (8th Intl. Symp. on Synthesis & Properties of Nanomaterials for Future Energy Demands) |
| | Room: Foyer |
| Poster Session | 28 Nov - 1 Dec, 2023 |

[NanomaterialsPoster1] **SOLID-STATE ⁶⁵Cu/¹¹⁹Sn MAS NMR STUDY OF PROLONGED OXIDATION IN AMBIENT AIR OF SEMICONDUCTOR KESTERITE Cu₂Zn₂SnS₄ NANOPOWDERS**

Jerzy F. Janik¹; Katarzyna Lejda¹; Zbigniew Olejniczak²; ¹AGH University of Krakow, Faculty of Energy and Fuels, Kraków, Poland; ²Institute of Nuclear Physics, Polish Academy of Sciences, 31 342 Kraków, Poland;
Paper ID: 249

[NanomaterialsPoster2] **X-RAY PHOTOELECTRON SPECTROSCOPIC INSIGHT INTO OXIDATION OF A RANGE OF SEMICONDUCTOR KESTERITE Cu₂ZnSnS₄ NANOPOWDERS AFTER 6 MONTH-EXPOSURE TO AMBIENT AIR**

Jerzy F. Janik¹; Katarzyna Lejda¹; ¹AGH University of Krakow, Faculty of Energy and Fuels, Kraków, Poland;
Paper ID: 253

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| SESSION:covid19Poster | Guerrant International Symposium (2nd Intl Symp. on COVID-19/Infectious Diseases & their implications on Sustainable Development) |
| | Room: Foyer |
| Poster Session | 28 Nov - 1 Dec, 2023 |

[covid19Poster1] **QUANTITATIVE PCR OF STRING-TEST COLLECTED GASTRIC MATERIAL: A FEASIBLE APPROACH TO DETECT HELICOBACTER PYLORI AND ITS RESISTANCE AGAINST CLARITHROMYCIN AND LEVOFLOXACIN FOR SUSCEPTIBILITY-GUIDED THERAPY**

Barry James Marshall¹; Xinyuan Han²; Xiqiu Yu³; Xiaojuan Gao³; Xiangyu Wang⁴; Alfred Chin Yen Tay⁵; Xiaolan Wei³; Bing Lai³; Xiuming Zhang³; Eng Guan Chua¹; ¹University of Western Australia, Crawley, Australia; ²Anhui University of Science and

Technology, Anhui, China; ³The Third Affiliated Hospital of Shenzhen University, Shenzhen, China; ⁴The First Affiliated Hospital of Shenzhen University, Shenzhen, China; ⁵University of Western Australia, Crawley, China;
Paper ID: 119

[covid19Poster2] **PRE-CLINICAL AND RANDOMIZED CLINICAL TRIAL WITH BROMHEXINE AND N-ACETYLCYSTEINE FOR COVID-19**

Aldo Lima¹; ¹Federal University of Ceara, Fortaleza, Brazil;
Paper ID: 324

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| SESSION:BatteryPoster | Kumar international Symposium (8th Intl. Symp. on Sustainable Secondary Battery Manufacturing & Recycling) |
| Poster Session | Room: Foyer 28 Nov - 1 Dec, 2023 |

[BatteryPoster1] **NANO-POWDERED MATERIALS BASED ON TUNGSTEN AND ITS COMPOUNDS: SUSTAINABLE ELECTROCHEMICAL SYNTHESIS AND APPLICATION**

Inessa Novoselova¹; Serhii Kuleshov²; Olha Medvezhynska³; Anatoliy Omel'chuk⁴; ¹V.I. Vernadskii Institute of General and Inorganic Chemistry, National Academy of Sciences of Ukraine, Kyiv, Ukraine; ²Vernadsky Institute of General and Inorganic Chemistry of the Ukrainian National Academy of Sciences, Kyiv, Ukraine; ³V. I. Vernadsky Institute of General and Inorganic Chemistry of the National Academy of Sciences of Ukraine, Kyiv, Ukraine; ⁴Ukrainian National Academy of Sciences V.I.Vernadsky Institute of General & Inorganic Chemistry, Kyiv-142, Ukraine;
Paper ID: 202

[BatteryPoster2] **THE LEACHING PARAMETERS OPTIMIZATION OF A MIXTURE OF CATHODE MATERIALS FROM SPENT LITHIUM - ION BATTERIES DURING THE DISPOSAL OF HOUSEHOLD APPLIANCES AND ELECTRONICS**

Yulia Sokolova¹; Vladislav Kordik¹; ¹JSC VNIICHT, Leading Research of Chemical Technology, Moscow, Russian Federation;
Paper ID: 417

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| SESSION:SolidStateChemistryPoster | Poeppelmeier International Symposium(3rd Intl Symp on Solid State Chemistry for Applications & Sustainable Development) |
| Poster Session | Room: Foyer 28 Nov - 1 Dec, 2023 |

[SolidStateChemistryPoster1] **PROCESSING OF Ni-Ti ALLOYS THROUGH POWDER METALLURGY AND ITS MECHANICAL AND MICROSTRUCTURAL BEHAVIOR.**

Vinicius Camilo Caitano¹; ¹Fimat-Ouro Preto, Ouro Branco, Brazil;
Paper ID: 94

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| SESSION:MineralPoster | Torem International Symposium (8th Intl. Symp. on Sustainable Mineral Processing) |
| | Room: Foyer |
| Poster Session | 28 Nov - 1 Dec, 2023 |

[MineralPoster1] **ADSORPTION OF OIL FROM WASTEWATER BY ANTHRACITE COAL**

Jovica Sokolovic¹; Grozdanka Bogdanović²; Ivana Ilić²; Zoran Štirbanović²; ¹University of Belgrade, Technical faculty in Bor, Serbia, Belgrade, Serbia and Montenegro; ²University of Belgrade, Technical Faculty in Bor, Bor, Serbia, Bor, Serbia; Paper ID: 92

[MineralPoster2] **EXPLORING PEDAGOGIES OF K-12 STEM EDUCATION AND EDUCATION FOR SUSTAINABILITY**

Jessica Cordaro¹; ¹University of Wisconsin-Stevens Point, Stevens Point, United States; Paper ID: 287

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| SESSION:AdvancedMaterialsPoster | 7th Intl Symposium on New & Advanced Materials and Technologies for Energy, Environment, Health and Sustainable Development |
| | Room: Foyer |
| Poster Session | 28 Nov - 1 Dec, 2023 |

[AdvancedMaterialsPoster1] **CAPTURING TOBACCO SPECIFIC NITROSAMINES (TSNA) WITH NEW SORBENT DERIVED FROM USED CIGARETTE FILTER**

Jian Hua Zhu¹; Ying Wang²; Yu Kang Zhang¹; ¹Nanjing University, Nanjing, China; ²Nanjing University, Nanjing 210023, China; Paper ID: 159

[AdvancedMaterialsPoster2] **SOLAR DRIVEN HYDROGEN GENERATION FROM WATER SPLITTING ON CONJUGATED POLYMER**

Jun Zhou¹; Zhiwei Cui¹; Ying Wang²; Zhigang Zou³; ¹1. School of Chemistry and Chemical Engineering, Nanjing University Nanjing, 210023, P. R. China. ²1 School of Chemistry and Chemical Engineering, Nanjing University Nanjing, 210023, P. R. China. ³2. Eco-materials and Renewable Energy Research Centre (ERERC), National Laboratory of Solid-State Microstructures, Kunshan Innovation Institute of Nanjing University, Jiangsu Key Laboratory for Nanotechnology, Nanjing University, Nanjing, 210023, P. R. China., Nanjing, China; ²Nanjing University, Nanjing 210023, China; ³2. Eco-materials and Renewable Energy Research Centre (ERERC), National Laboratory of Solid-State Microstructures, Kunshan Innovation Institute of Nanjing University, Jiangsu Key Laboratory for Nanotechnology, Nanjing University, Nanjing, 210023, P. R. China., Nanjing, China; Paper ID: 164

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| SESSION:EnergyPoster | 8th Intl. Symp. on Sustainable Energy Production: Fossil; Renewables; Nuclear; Waste handling , processing, & storage for all energy production technologies; Energy conservation |
| | Room: Foyer |
| Poster Session | 28 Nov - 1 Dec, 2023 |

[EnergyPoster1] **OPTIMIZING BUSINESS PROFIT WITH SUSTAINABLE MANUFACTURING: CASE STUDY OF BAKERY**

Esmâ Nur Semir¹; Kutay Ercan²; Elif Şimşek²; İbrahim Cahit Ozdemir¹; Abdulmecid Pamuk¹; Vildan Yalova³; İbrahim Binici¹; Mehmet Fatih Bor¹; Şakir Bingöl¹; ¹Marmara University, İstanbul, Turkey; ²Marmara University, İstanbul, Turkey; ³Marmara university, İstanbul, Turkey;
Paper ID: 130

[EnergyPoster2] **SMART WATER INJECTION INTO CARBONATE RESERVOIR ROCKS AND ITS EFFECT ON RESERVOIR ROCK AND FLUID PROPERTIES**

Abdollah Esmâeilî¹; ¹Universidade Federal do Pará (UFPA), Belem, Brazil;
Paper ID: 371

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| SESSION:MathematicsPoster | 6th Intl. Symp. on Sustainable Mathematics Applications |
| | Room: Foyer |
| Poster Session | 28 Nov - 1 Dec, 2023 |

[MathematicsPoster1] **FRENKEL-KONTOROVA MODEL - CONSTRUCTION OF THE GROUND STATE**

Alexander Filonov¹; Aleksandr Ivanenko²; ¹Institute of Nonferrous Metals and Materials Science Siberian Federal University Krasnoyarsk pr. imeni gazety Krasnoyarskii Rabochii 95 RUSSIAN FEDERATION, Красноярск, Russian Federation; ²Institute of Engineering Physics and Radioelectronics, Siberian Federal University, Krasnoyarsk, Russian Federation;
Paper ID: 474

[MathematicsPoster2] **PORTVIN - LE CHATELIER EFFECT**

Alexander Filonov¹; Lyudmila Kveglis²; Artur Abkaryan²; Evgeniy Artemyev²; ¹Institute of Nonferrous Metals and Materials Science Siberian Federal University Krasnoyarsk pr. imeni gazety Krasnoyarskii Rabochii 95 RUSSIAN FEDERATION, Красноярск, Russian Federation; ²Institute of Engineering Physics and Radioelectronics, Siberian Federal University, Krasnoyarsk, Russian Federation;
Paper ID: 475

[MathematicsPoster3] **OPEN AND CLOSED QUANTUM MECHANICAL SYSTEMS**

Alexander Filonov¹; Valentin Danilov²; Artur Abkaryan³; Aleksandr Ivanenko³; ¹Institute of Nonferrous Metals and Materials Science Siberian Federal University Krasnoyarsk

pr. imeni gazety Krasnoyarskii Rabochii 95 RUSSIAN FEDERATION, Красноярск, Russian Federation; ²Institute of Space and Informatic Technologies, Siberian Federal University, Krasnoyarsk, Russian Federation; ³Institute of Engineering Physics and Radioelectronics, Siberian Federal University, Krasnoyarsk, Russian Federation; Paper ID: 476

[MathematicsPoster4] **FRENKEL-KONTOROVA MODEL - GROUND STATE**

Alexander Filonov¹; Artur Abkaryan²; Aleksandr Ivanenko²; ¹Institute of Nonferrous Metals and Materials Science Siberian Federal University Krasnoyarsk pr. imeni gazety Krasnoyarskii Rabochii 95 RUSSIAN FEDERATION, Красноярск, Russian Federation; ²Institute of Engineering Physics and Radioelectronics, Siberian Federal University, Krasnoyarsk, Russian Federation; Paper ID: 477

[MathematicsPoster5] **DIAMOND MOLECULE**

Alexander Filonov¹; Valentin Danilov²; Artur Abkaryan³; Aleksandr Ivanenko³; Anatoly Korets³; ¹Institute of Nonferrous Metals and Materials Science Siberian Federal University Krasnoyarsk pr. imeni gazety Krasnoyarskii Rabochii 95 RUSSIAN FEDERATION, Красноярск, Russian Federation; ²Institute of Space and Informatic Technologies, Siberian Federal University, Krasnoyarsk, Russian Federation; ³Institute of Engineering Physics and Radioelectronics, Siberian Federal University, Krasnoyarsk, Russian Federation; Paper ID: 478

[MathematicsPoster6] **MODE OF COHERENT DEVELOPMENT OF BIOLOGICAL COMMUNITIES**

Alexander Filonov¹; Aleksandr Ivanenko²; Olga Peryanova³; Anatoly Korets²; ¹Institute of Nonferrous Metals and Materials Science Siberian Federal University Krasnoyarsk pr. imeni gazety Krasnoyarskii Rabochii 95 RUSSIAN FEDERATION, Красноярск, Russian Federation; ²Institute of Engineering Physics and Radioelectronics, Siberian Federal University, Krasnoyarsk, Russian Federation; ³Krasnoyarsk State Medical University, Krasnoyarsk, Russian Federation; Paper ID: 479

[MathematicsPoster7] **FRENKEL-KONTOROVA MODEL - DYNAMICS**

Alexander Filonov¹; Artur Abkaryan²; Aleksandr Ivanenko²; ¹Institute of Nonferrous Metals and Materials Science Siberian Federal University Krasnoyarsk pr. imeni gazety Krasnoyarskii Rabochii 95 RUSSIAN FEDERATION, Красноярск, Russian Federation; ²Institute of Engineering Physics and Radioelectronics, Siberian Federal University, Krasnoyarsk, Russian Federation; Paper ID: 480

[MathematicsPoster8] **DYNAMICS FRENKEL-KONTOROVA MODEL**

Alexander Filonov¹; Lyudmila Kveglis²; Artur Abkaryan²; Evgeniy Artemyev²; ¹Institute of Nonferrous Metals and Materials Science Siberian Federal University Krasnoyarsk pr. imeni gazety Krasnoyarskii Rabochii 95 RUSSIAN FEDERATION, Красноярск, Russian Federation; ²Institute of Engineering Physics and Radioelectronics, Siberian Federal University, Krasnoyarsk, Russian Federation;

Paper ID: 481

[MathematicsPoster9] **APPLICATION OF THE DFK MODEL TO METAL ALLOYS MODEL OF ATOMIC ORDERING IN A_xB_{1-x} ALLOYS**

Alexander Filonov¹; Lyudmila Kveglis²; Artur Abkaryan²; Evgeniy Artemyev²; ¹Institute of Nonferrous Metals and Materials Science Siberian Federal University Krasnoyarsk pr. imeni gazety Krasnoyarskii Rabochii 95 RUSSIAN FEDERATION, Красноярск, Russian Federation; ²Institute of Engineering Physics and Radioelectronics, Siberian Federal University, Krasnoyarsk, Russian Federation;
Paper ID: 482

[MathematicsPoster10] **PROSPECTS FOR THE DFK MODEL**

Alexander Filonov¹; Lyudmila Kveglis²; Artur Abkaryan²; Evgeniy Artemyev²; ¹Institute of Nonferrous Metals and Materials Science Siberian Federal University Krasnoyarsk pr. imeni gazety Krasnoyarskii Rabochii 95 RUSSIAN FEDERATION, Красноярск, Russian Federation; ²Institute of Engineering Physics and Radioelectronics, Siberian Federal University, Krasnoyarsk, Russian Federation;
Paper ID: 483

[MathematicsPoster11] **ON THE POSSIBILITY OF “COLD THERMONUCLEAR FUSION”**

Alexander Filonov¹; Valentin Danilov²; ¹Institute of Nonferrous Metals and Materials Science Siberian Federal University Krasnoyarsk pr. imeni gazety Krasnoyarskii Rabochii 95 RUSSIAN FEDERATION, Красноярск, Russian Federation; ²Institute of Space and Informatic Technologies, Siberian Federal University, Krasnoyarsk, Russian Federation;
Paper ID: 484

[MathematicsPoster12] **DEVELOPMENT OF THE FRENKEL-KONTOROVA MODEL AIM MODEL**

Alexander Filonov¹; Aleksandr Ivanenko²; ¹Institute of Nonferrous Metals and Materials Science Siberian Federal University Krasnoyarsk pr. imeni gazety Krasnoyarskii Rabochii 95 RUSSIAN FEDERATION, Красноярск, Russian Federation; ²Institute of Engineering Physics and Radioelectronics, Siberian Federal University, Krasnoyarsk, Russian Federation;
Paper ID: 485

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| SESSION:MedicinePoster | 2nd Intl. Symp. on Technological Innovations in Medicine for Sustainable Development |
| | Room: Foyer |
| Poster Session | 28 Nov - 1 Dec, 2023 |

[MedicinePoster1] **SPAD-CARE: SEMI-PERMANENT ACCESS DEVICE CARE**

M^a Inés Corcuera Martínez¹; Marta Ferraz Torres¹; Jesús Daniel Trigo Vilaseca²; Ana María Díez Revilla¹; Ruth Plaza Unzue¹; Mikel Díaz Noain¹; José Javier Astrain Escola²; Luis Javier Serrano Arriezu²; ¹Hospital Universitario de Navarra, Pamplona,

Spain; ²Universidad Pública de Navarra, Pamplona, Spain;
Paper ID: 147

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| SESSION:ModellingPoster | 18th Intl. Symp. on Multiscale & Multiphysics Modelling of 'Complex' Material |
| | Room: Foyer |
| Poster Session | 28 Nov - 1 Dec, 2023 |

[ModellingPoster1] **MULTISCALE ANALYSIS OF A NUCLEAR MATERIAL FOR MECHANICAL AND FRACTURE STRESSES**

Ramana Pidaparti¹; ¹University of Georgia, Athens, United States;
Paper ID: 142

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| SESSION:ModellingMaterialsPoster | Modelling, Materials & Processes Interdisciplinary symposium for sustainable development |
| | Room: Foyer |
| Poster Session | 28 Nov - 1 Dec, 2023 |

[ModellingMaterialsPoster1] **DESIGN AND SIMULATION OF DIFFERENT TYPES OF GATING SYSTEM CAST IRON WHEEL CASTINGS**

Peter Futas¹; Alena Pribulova²; Jozef Petrik³; Peter Blasko⁴; Andrea Junakova⁵; Vladimir Sabik⁶; Marcela Pokusova⁷; ¹Technical university of Kosice, Slovakia, Kosice, Slovakia; ²Technical University in Kosice, Faculty of Metallurgy, Kosice; ³Technical university of Kosice, Kosice, Slovakia (Slovak Republic); ⁴Technical university of Kosice, Kosice, Slovakia; ⁵Magneti Marelli Slovakia, Kechnec, Slovakia (Slovak Republic); ⁶Technical university of Košice, Kosice, Slovakia; ⁷Slovak University of Technology in Bratislava, Bratislava, Slovenia;
Paper ID: 1

[ModellingMaterialsPoster2] **DECARBONIZATION OF EXTRACTIVE METALLURGY PROCESSES OF NON-FERROUS METALS BY THE INTRODUCTION OF HYDROGEN AS A REDUCING AGENT**

Ana Cecilia Rios Porfirio Ferreira¹; Paulo Assis²; ¹Universidade Federal de Ouro Preto, Buxtehude, Germany; ²University of Ouro Preto / REDEMAT, Ouro Preto, Brazil;
Paper ID: 43

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| | Room: Foyer |
| Poster Session | 28 Nov - 1 Dec, 2023 |

[MoltenPoster1] **ELECTRICAL CONDUCTIVITY of MOLTEN (LiCl-KCl)eut. - PbCl₂ MIXTURES**

Alexei Potapov¹; Alexander Salyulev¹; ¹Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;
Paper ID: 102

[MoltenPoster2] **ELECTRICAL CONDUCTIVITY of MOLTEN (LiCl-KCl)eut. - ZrCl₄ MIXTURES**

Alexei Potapov¹; Alexander Salyulev¹; ¹Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;
Paper ID: 110

[MoltenPoster3] **VOLATILITY OF SATURATED VAPOR COMPONENTS OF MOLTEN MIXTURES UCl₄ –MCl (M - ALKALI METAL)**

Alexei Potapov¹; Alexander Salyulev¹; ¹Institute of High Temperature Electrochemistry, Ekaterinburg, Russian Federation;
Paper ID: 111

[MoltenPoster4] **ELECTROCHEMICAL BEHAVIOUR OF (NH₄)₂TiF₆ AND NH₄BF₄ IN CARBAMIDE MELTS**

Sergei Devyatkin¹; Peixia Yang²; Fan Meng¹; ¹Harbin Institute of Technology, Harbin, China; ²Kharbin Institute of Technology, Harbin, China;
Paper ID: 348

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| SESSION:PhysicsPoster | 2nd Intl Symp on Physics, Technology & Interdisciplinary Research for Sustainable Development |
| Poster Session | Room: Foyer 28 Nov - 1 Dec, 2023 |

[PhysicsPoster1] **EFFECT OF WATER INTAKE ON SKIN HYDRATION LEVEL: A PILOT STUDY ON A GROUP OF COMMERCIAL HOLDING WORKERS**

Davide Rossi¹; Renata Uruci²; Asmae Mahmoudi³; Rossano Ripa³; ¹-NGO Development Cooperation BAZH.I, Via Borgognone, 13, Maserada Sul Piave, Italy, Maserada Sul Piave, Italy; ²Development Cooperation BAZH.I NGO, Maserada Sul Piave, Italy; ³Ares Solida, Treviso, Italy;
Paper ID: 395

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| SESSION:RecyclingPoster | 9th Intl. Symp. on Sustainable Materials Recycling Processes & Products |
| Poster Session | Room: Foyer 28 Nov - 1 Dec, 2023 |

[RecyclingPoster1] **FOUNDRY WASTE OR SECONDARY RAW MATERIALS?**

Alena Pribulova¹; Peter Futas²; Patrik Fedorko³; Jozef Petrik⁴; Peter Blasko⁵; Marcela Pokusova⁶; ¹Technical University in Kosice, Faculty of Metallurgy, Kosice; ²Technical university of Kosice, Slovakia, Kosice, Slovakia; ³Technical university, Faculty of Materials, Metallurgy and Recycling, Kosice, Slovakia; ⁴Technical university of Kosice, Kosice, Slovakia (Slovak Republic); ⁵Technical university of Kosice, Kosice, Slovakia; ⁶Slovak University of Technology in Bratislava, Bratislava, Slovenia;

Paper ID: 131

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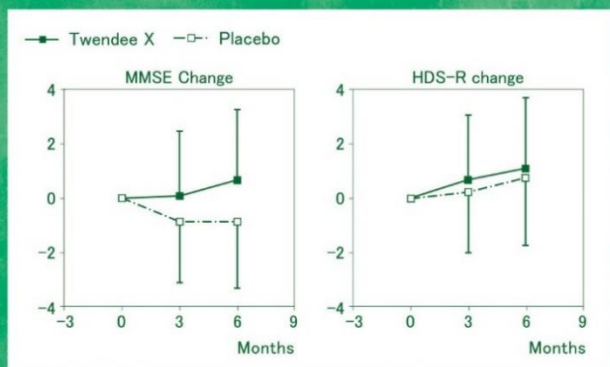
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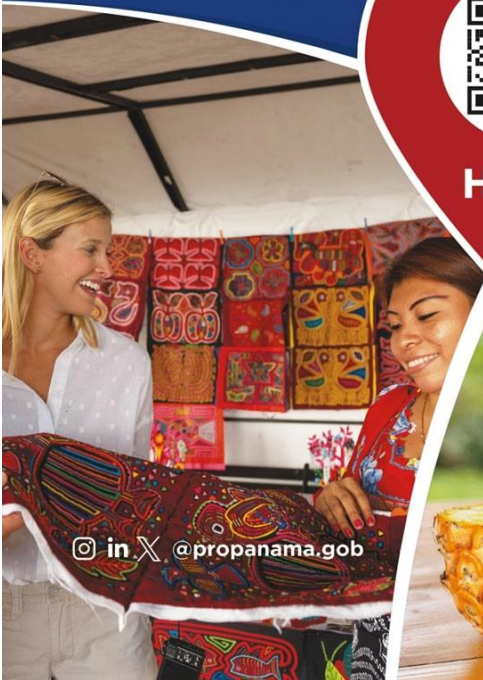
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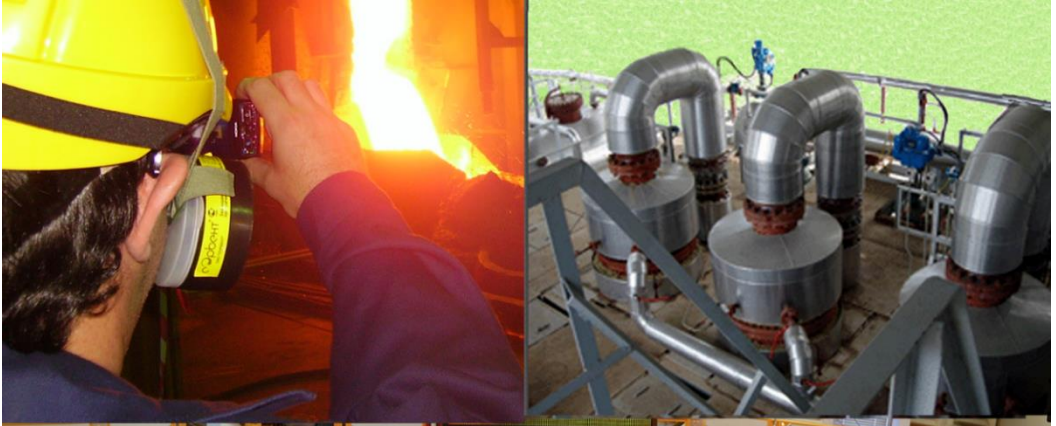
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