

## Conference Program Overview

| Wednesday October 31, 2018 |   |                     |
|----------------------------|---|---------------------|
| 8:00 - 8:30                | Welcoming and Registration of attendees   |                     |
| 8:30 - 9:10                | Opening Ceremony - Welcoming address by the General Director of INRS and the Conference Chair |                     |
|                            | Room A: Ballroom  | Room B: Hibiscus    |
| 9:15- 10:15                | <u>Oral Session</u>   | <u>Oral Session</u> |
| 10:15 - 10:40              | COFFEE BREAK  |                     |
| 10:40 - 12:30              | <u>Oral Session</u>   | <u>Oral Session</u> |
| 12:30 - 13:30              | LUNCH (in the Ballroom)   |                     |
| 13:30- 16:00               | <u>Oral Session</u>   | <u>Oral Session</u> |
| 16:00 - 16:30              | COFFEE BREAK  |                     |
| 16:30 - 19:00              | <u>Oral Session</u>   | <u>Oral Session</u> |

| Thursday November 1st, 2018 |  |                       |
|-----------------------------|--|-----------------------|
|                             | Room A: Ballroom                               | Room B: Hibiscus      |
| 8:30- 10:10                 | <u>Oral Session</u>                            | <u>Poster Session</u> |
| 10:10 - 10:40               | COFFEE BREAK                                   |                       |
| 10:40 - 12:20               | <u>Oral Session</u>                            |                       |
| 12:20 - 13:20               | LUNCH (in the Ballroom)                        |                       |
| 13:30 - 14:30               | Invited Plenary Talk (Ballroom), Prof. M. Endo |                       |
| 14:30- 16:00                | <u>Oral Session</u>                            | Poster Session        |
| 16:00 - 16:30               | COFFEE BREAK                                   |                       |
| 16:30 - 18:50               | <u>Oral Session</u>                            |                       |
| 19:45 - 22:00               | Conference Banquet (Ballroom)                  |                       |

| <b>Friday, November 2nd, 2018</b> |  |                         |
|-----------------------------------|--|-------------------------|
|                                   | <b>Room A: Ballroom</b>                        | <b>Room B: Hibiscus</b> |
| 8:30- 10:10                       | <u>Oral Session</u>                            | <u>Poster Session</u>   |
| 10:10 - 10:40                     | <b>COFFEE BREAK</b>                            |                         |
| 10:40 - 11:40                     | <u>Oral Session</u>                            |                         |
| 11:40 - 12:30                     | <u>Poster Session</u>                          |                         |
| 12:30 - 13:30                     | <b>LUNCH (in the Ballroom)</b>                 |                         |
| 13:30 - 14:00                     | <u>Poster Session</u>                          | <u>Poster Session</u>   |
| 14:00- 15:30                      | <u>Oral Session</u>                            |                         |
| 15:40 - 16:10                     | <b>COFFEE BREAK</b>                            |                         |
| 16:10 - 17:10                     | <u>Oral Session</u>                            |                         |
| 17:10 - 17:30                     | <b>Closing Remarks / End of the conference</b> |                         |

## Detailed Conference Program (Room A: Ballroom)

| Wednesday October 31, 2018 |  |
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| Room A (Ballroom)          |  |
|                            | <b>Session A1: Advanced Materials and Processes for Environment and Health</b><br><b>Chairs: Prof. Fiorenzo Vetrone (INRS-EMT, Canada) / Prof. Yoong Ahm Kim (Chonnam National University, South Korea.)</b> |
| 9:15 - 9:45                | <b>Invited talk:</b> "Terahertz chemical microscope – a unique tool for health and the environment", <b>Prof. Tsuneyuki Ozaki, INRS-EMT, Canada.</b>   |
| 9:45 - 10:15               | <b>Invited talk:</b> "Mechano-inspired tissue engineering: using the Force to manufacture cell-based therapies", <b>Prof. Christopher Moraes, McGill University, Canada.</b>                                 |
| 10:15 - 10:40              | <b>COFFEE BREAK</b>  |
| 10:40 - 11:10              | <b>Invited talk:</b> "Signal processing and machine learning for remote health monitoring based on low-cost wearable devices", <b>Prof. Tiago Falk, INRS-EMT, Canada.</b>                                    |
| 11:10-11:40                | <b>Invited talk:</b> "Amyloid supramolecular assemblies: from mechanisms of self-assembly to nanovaccine design", <b>Prof. Steve Bourgault, UQAM, Canada.</b>  |
| 11:40-12:10                | <b>Invited talk:</b> "MHz/THz energy in bio-supramolecular assembly", <b>Dr. Andrea Greschner, INRS-EMT, Canada.</b>   |
| 12:10-12:30                | "TiO <sub>2</sub> -NTs modification for improved photo-electrochemical conversion",<br><b>Thomas Cottineau, T. Favet, F. Gelb, V. Keller, M. A. El Khakani, Univ. de Strasbourg, France</b>                  |
| 12:30 - 13:30              | <b>LUNCH (in the Ballroom)</b>   |
|                            | <b>Session A2: Advanced Materials for catalysis, biocatalysis, photocatalysis, photovoltaics and photosensing</b><br><b>Chair: Dr. Valérie Keller (CNRS/Univ. Strasbourg, France)</b>                        |
| 13:30 - 14:00              | <b>Invited talk:</b> "Linear Carbon Chains inside Carbon",<br><b>Prof. Yoong Ahm Kim, Chonnam National University, South Korea.</b>  |
| 14:00 - 14:30              | <b>Invited talk:</b> "Modelling heterogeneous photocatalytic for water splitting: What can we ask from quantum chemistry?", <b>Prof. Tangui Le Bahers, Univ. C.B. Lyon, France.</b>                          |
| 14:30 - 15:00              | <b>Invited talk:</b> "Exploiting light from rare earth doped nanoparticles",<br><b>Prof. Fiorenzo Vetrone, INRS-EMT, Canada</b>  |

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| 15:00 - 15:30 | <b>Invited talk:</b> "Theoretical investigation of Si and N-codoped carbon catalysts for hydrogen fuel cells", <b>Prof. François Vidal, INRS-EMT, Canada.</b>   |
| 15:30 - 16:00 | <b>Invited talk:</b> "Graphene-like silicene grown on inert surfaces", <b>Dr. Manuella Scarselli, Univ. Roma "Tor Vergata", Italy.</b>  |
| 16:00 - 16:30 | <b>COFFEE BREAK</b>   |
|               | <b>Session A3: Advanced Materials for catalysis, biocatalysis, photocatalysis, photovoltaics and photosensing</b>   |
|               | <b>Chair: Prof. François Vidal (INRS-EMT, Canada)</b>   |
| 16:30 - 17:00 | <b>Invited talk:</b> "None-destructive evaluation of Li-Ion batteries using a terahertz chemical microscopy", <b>Prof. Toshihiko Kiwa, Okayama University, Japan.</b>   |
| 17:00 - 17:30 | <b>Invited talk:</b> " Molybdenum diselenide as electrocatalysts for efficient hydrogen evolution reaction", <b>Prof. Mohamed Siaj, UQAM, Canada.</b>   |
| 17:30 - 18:00 | <b>Invited talk:</b> "Formation of multilayer structure via spinodal decomposition in TiO <sub>2</sub> - VO <sub>2</sub> epitaxial films", <b>Prof. Yuji Muraoka, Okayama University, Japan.</b>  |
| 18:00 - 18:20 | "Gold bipyramids/SiO <sub>2</sub> core-shell nanoparticles for an enhanced generation of singlet oxygen - Application in photocatalytic oxygenation", <b>C. Mendoza, D. Chateau, A. Desert, ..... , S. Parola, Benoît Heinrichs, Universite de Liege, Belgium</b> |
| 18:20 - 18:40 | "New ambient conditions fabrication method for efficient perovskite solar cells", <b>Ivy Asuo, I.Ka, D. Gedamu, R. Nechache, S.G. Cloutier, A. Pignolet, INRS-EMT, Canada.</b>  |

## Detailed Conference Program (Room A: Ballroom)

| Thursday November 1st, 2018 |  |
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| Room A (Ballroom)           |  |
|                             | <p><b>Session A4: Advanced Materials and Processes for Photocatalysis, Photovoltaics, Energy Systems and Health</b></p> <p><b>Chairs: Prof. Ana Tavares (INRS-EMT, Canada) / Prof. Andreas Ruediger</b></p>  |
| 8:30 - 9:00                 | <b>Invited talk:</b> "Artificial dielectric interface for Li battery with ultrahigh rate capability", <b>Prof. Takashi Teranishi, Okayama University, Japan.</b>   |
| 9:00 - 9:30                 | <b>Invited talk:</b> "Integrated biorefinery as an approach to enhance the sustainability of chemical industries", <b>Prof. Azadeh Kermanshaki pour, Dalhousie University, Canada.</b>   |
| 9:30 - 9:50                 | "Towards enhancing photocatalytic hydrogen generation: Which is more important, alloy synergistic effect or plasmonic effect?", <b>Zhenhe Xu and Dongling. Ma, Shenyang, University China.</b>   |
| 9:50- 10:10                 | "SFE: an advanced process for the production of high performance drugs", <b>D. Spitzer and Valérie Keller, Institut Saint Louis/Univ. Strasbourg, France.</b>  |
| 10:10 - 10:40               | <b>COFFEE BREAK</b>  |
| 10:40 - 11:00               | "High-temperature metal-water reactions and the metal fuel economy", <b>Keena Trowell, S. Goroshin, D.L. Frost, J.M. Bergthorson, McGill University, Canada.</b>   |
| 11:00-11:20                 | "Fe/Co Hydroxide/Oxide and N-Doped CNTs Hybrid as Highly Efficient Electrocatalyst for Rechargeable Liquid and Solid-State Zinc-air Batteries", <b>Mingjie Wu, Q. Wei, G. Zhang and Sh. Sun, INRS-EMT, Canada.</b>   |
| 11:20-11:40                 | "Highly active and stable shrub-like Pt <sub>1-x</sub> Rh <sub>x</sub> /CP bimetallic heterogeneous catalysts synthesized by CB-PLD for ethanol electrooxidation at room temperature", <b>Haixia Wang, X. Tong, A. Tabet-Aoul, S. Shuhui, and M. Mohamedi, INRS-EMT, Canada</b>                              |
| 11:40 - 12:00               | "Au/gC <sub>3</sub> N <sub>4</sub> -TiO <sub>2</sub> nanocomposite for H <sub>2</sub> production from water under solar and visible- light with unusual low content of sacrificial electron donor", <b>Pablo Jimenez-Calvo, T. Cottineau, V. Caps, V. Keller, ICPEES / Université de Strasbourg, France.</b> |
| 12:00 - 12:20               | "Fumaric acid bioproduction from agro-industrial residues", <b>Joseph Sebastian, T. Rouissi, and S. Kaur Brar, INRS-ETE, Canada</b>  |
| 12:20 - 13:20               | <b>LUNCH (in the Ballroom)</b>   |

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|               | <b>Session A5: Advanced Materials and Processes for photocatalysis, Energy, Water, Environment and Health</b><br><b>Chair: Prof. My Ali El Khakani, INRS-EMT, Canada</b>  |
| 13:30 - 14:30 | <b>Invited Plenary Talk:</b><br>"Carbon nanotubes-polyamide reverse osmosis membranes: The next generation of robust and low-fouling desalination membranes",<br><b>Prof. Morinobu Endo, Shinshu University, Japan.</b>   |
| 14:30-15:00   | <b>Invited talk:</b> "Microwave plasma jet in water: an efficient system for wastewater processing", <b>Prof. Ahmad Hamdan, Université de Montréal, Canada.</b>   |
| 15:00 - 15:30 | <b>Invited talk:</b> "Nonlinear optical microscopy for biomedical imaging applications",<br><b>Prof. François Légaré, INRS-EMT, Canada.</b>   |
| 15:30 - 16:00 | <b>Invited talk:</b> "Harnessing the energy potential of the atmosphere to drive biogeochemical engine in soil", <b>Prof. Philippe Constant , INRS-IAF, Canada.</b>   |
| 16:00 - 16:30 | <b>COFFEE BREAK</b>   |
|               | <b>Session A6: Advanced processes for Energy, Water and Soil decontamination and Health</b><br><b>Chair: Prof. Patrick Drogui, INRS-ETE, Canada</b>   |
| 16:30 - 17:00 | <b>Invited talk:</b> "Prospects of microbial biodiesel production through valorization of wastes: A techno-economic analysis", <b>Prof. Rajeshwar Tyagi, INRS-ETE, Canada.</b>  |
| 17:00 - 17:30 | <b>Invited talk:</b> "Untapped potential: Fungi for the bioremediation of organic pollutants", <b>Prof. Hubert Cabana, Université de Sherbrooke, Canada.</b>  |
| 17:30 - 18:00 | <b>Invited talk:</b> "Insights on the spatial-temporal distribution of salinity in a drinking water reservoir using 3D water quality modeling – The Lake St. Charles case study (Quebec City, Canada)", <b>Prof. Alain Rousseau, INRS-ETE, Canada.</b>            |
| 18:00 - 18:30 | <b>Invited talk:</b> "Zebrafish: An in vivo model for the study of neurological disorders",<br><b>Prof. Kessen Patten , INRS-IAF, Canada</b>  |
| 18:30 - 18:50 | "Valorization of composting leachate as culture medium to produce plant growth promoting Rhizobium species to produce eco-friendly biofertilizers", <b>Tania P. Santiago- Badillo, T.T. Ha Pham, ....., A. Avalos Ramirez, Universidad de Guanajuato, Mexico.</b> |
| 19:45 - 22:00 | <b>Conference Dinner (Ballroom)</b>   |

## Detailed Conference Program (Room A: Ballroom)

| Friday November 2nd, 2018 |   |
|---------------------------|---|
| Room A (Ballroom)         |   |
|                           | <b>Session A7: Advanced Materials/Processes for Energy, Environment and Health</b><br><b>Chairs: Prof. Ahmad Hamdan (Université de Montréal, Canada) / Prof. Satinder Brar (INRS-ETE, Canada)</b>   |
| 8:30 - 9:00               | <b>Invited talk:</b> "Emerging earth abundant materials for thin film photovoltaic applications: kesterite and related compounds", <b>Dr. Edgardo Saucedo, Catalonia Institute for Energy Research (IREC), Spain.</b>                                 |
| 9:00 - 9:30               | <b>Invited talk:</b> "Emerging contaminants irony: to treat or not to treat!", <b>Prof. Satinder Kaur Brar, INRS-ETE, Canada.</b>   |
| 9:30 - 9:50               | "Enhanced sunlight-photoelectrochemical response of TiO <sub>2</sub> nanotubes decorated by pulsed laser deposited CoNi nanoparticles", <b>Thomas Favet, T. Cottineau, V.Keller, and M. A. El Khakani, INRS-EMT, Canada /Univ. Strasbourg, France</b> |
| 9:50 - 10:10              | "Niobium oxide nanostructures by controlled hydrothermal synthesis", <b>Hela Kammoun, Marcos R.V. Lanza, and Ana C. Tavares, INRS-EMT, Canada</b>   |
| 10:10 - 10:40             | <b>COFFEE BREAK</b>   |
| 10:40 - 11:10             | <b>Invited talk:</b> "Supercritical Water Oxidation of Wastewater Sludge Contaminated with p- tert-butylcatechol", <b>Prof. Banu Örmeci, Carleton University, Ottawa, Canada.</b>   |
| 11:10-11:40               | <b>Invited talk:</b> "Recent statistical approaches in environmental health", <b>Prof. Fateh Chebana, INRS-ETE, Canada.</b>   |
| 11:40-12:30               | <b>Poster Session (Hibiscus Room)</b>   |
| 12:30-13:30               | <b>LUNCH (in the Ballroom)</b>  |
|                           | <b>Poster Session (Hibiscus Room)</b>   |
|                           | <b>Session A8: Advanced Processes for Health &amp; Environment</b><br><b>Chair: Prof. David Chatenet, INRS-IAF, Canada</b>  |
| 14:00 - 14:30             | <b>Invited talk:</b> "Advances in control of arbovirus vectors", <b>Dr. Isabelle Dusfour, Institut Pasteur de la Guyane, France.</b>  |

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| 14:30 - 15:00 | <b>Invited talk:</b> "Development of new models for the study of cell-cell interactions as targets for endocrine disruptors", <b>Prof. Isabelle Plante, INRS-IAF, Canada.</b>                    |
| 15:00 - 15:30 | <b>Invited talk:</b> "In utero exposure to maternal environmental stressors alters placental function: Role in fetal programming ", <b>Prof. Cathy Vaillancourt, INRS-IAF, Canada.</b>           |
| 15:40 - 16:10 | <b>COFFEE BREAK</b>  |
|               | <b>Session A9: Advanced Materials and Processes for Water and Environment</b>  |
|               | <b>Chair: Prof. Alain Rousseau, INRS-ETE, Canada</b>   |
| 16:10 - 16:40 | <b>Invited talk:</b> "Drinking water distribution resilience in an era of climate changes", <b>Dr. Ianis Delpla, Université Laval, Canada.</b>   |
| 16:40 - 17:10 | <b>Invited talk:</b> "Foam injection for environmental remediation: applications for NAPL recovery and temporary DNAPL source zone confinement", <b>Prof. Richard Martel, INRS- ETE, Canada.</b> |
| 17:10 - 17:30 | <b>Closing Remarks / End of the conference</b>   |



## Detailed Conference Program (Room B: Hibiscus)

| Wednesday October 31, 2018 |  |
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| Room B (Hibiscus)          |  |
|                            | <b>Session B1: Advanced Materials and Processes for Energy and Health</b>  |
|                            | <b>Chairs: Prof. Toshihiko Kiwa (Okayama University, Japan) /<br/>Dr. Manuella Scarcelli (Università di Roma Tor-Vergata, Italy)</b>   |
| 9:15 - 9:45                | <b>Invited talk:</b> "Terahertz emission spectroscopy and imaging for energy saving material/device development", <b>Prof. Iwao Kawayama, Osaka University, Japan.</b>   |
| 9:45 - 10:15               | <b>Invited talk:</b> "Discovering drugs, tools and interesting chemical properties", <b>Prof. Steven Laplante, INRS-IAF, Canada.</b>   |
| 10:15 - 10:40              | <b>COFFEE BREAK</b>  |
| 10:40 - 11:10              | <b>Invited talk:</b> "Micro-Biofuel Cells: an enabling power sources technology for implantable medical devices", <b>Prof. Mohamed Mohamedi, INRS-EMT, Canada.</b>   |
| 11:10-11:40                | <b>Invited talk:</b> "Inductively Coupled Plasma synthesized ultrathin Si nanowires for polymer nanocomposites", <b>Dr. Simona Boninelli, CNR/Univ. Catania, Italy</b>   |
| 11:40-12:10                | <b>Invited talk:</b> "Plasmonic nanocavities for terahertz radiation", <b>Dr. Ricardo Piccoli, INRS-EMT, Canada.</b>   |
| 12:10-12:30                | "Cation point defects in $\text{Cu}_2\text{ZnGe}_x\text{Sn}_{1-x}\text{Se}_4$ : the influence on electrical transport conductivity", <b>Galina Gurieva, M. Guc, E. Arushanov, S. Schorr, Helmholtz Zentrum Berlin, Germany</b>                       |
| 12:30 - 13:30              | <b>LUNCH (in the Ballroom)</b>   |
|                            | <b>Session B2: Advanced Materials for catalysis, biocatalysis, photocatalysis, photovoltaics and photosensing</b>  |
|                            | <b>Chairs: Prof. Mohamed Mohamedi (INRS-EMT, Canada) /<br/>Dr. Andrea Greschner (INRS-EMT, Canada)</b>   |
| 13:30 - 14:00              | <b>Invited talk:</b> "Transition metal oxides for the oxygen evolution and reduction reactions", <b>Prof. Ana C. Tavares, INRS-EMT, Canada.</b>  |
| 14:00 - 14:20              | "Heterogeneous photodegradation of fungicides and their commercial formulations with $\text{TiO}_2$ immobilized on SiC-Foams", <b>I. M'Bra, P. Garcia-Munoz, P. Drogui, N. Keller, Didier Robert, Univ. Lorraine &amp; Univ. Strasbourg, France.</b> |
| 14:20-14:40                | "Novel ZnO and Carbon nanocomposite for enhanced photoelectrochemical sensing activity", <b>Mounir Gaidi, M. Salem, S. Akir, I. Massoudi, Y. Litaïem, K. Khirouni, University of Sharjah, United Arab Emirates.</b>                                  |

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| 14:40 - 15:00 | "Preparation, characterization and photocatalytic activity under visible light of mono-doped (with Co, Ni & Mn) and codoped (with P,Mo & P,W) TiO <sub>2</sub> nanoparticles", <b><u>Omar Zegaoui</u>, A. El Mragui, I. Daou, J. C.G. Esteves da Silva, Univ. Moulay Ismail, Morocco.</b> |
| 15:00 - 15:20 | "Room temperature metal-insulator transition of boron doped VO <sub>2</sub> thin films grown by reactive pulsed laser deposition", <b><u>Thameur Hajlaoui</u>, N. Émond and M. Chaker, INRS- EMT, Canada.</b>   |
| 15:20 - 15:40 | "Inkjet-printed resistive memory cells with a silver nanowire bottom electrode", <b><u>Evi Linkerhaegner</u>, B. Huber, M. Kaiser, A. Ruediger, C. Schindler, Munich Univ. Germany.</b>   |
| 15:40 - 16:00 | "Tunable elliptical radiation at low THz frequencies in the high field domain", <b><u>Xavier Ropagnol</u>, X. Chai, M. Raeiszadeh, S. S. Naeini, M. Reid, T. Ozaki, INRS- EMT, Canada.</b>  |
| 16:00 - 16:30 | <b>COFFEE BREAK</b>   |
|               | <b><u>Session B3:</u> Advanced Materials for catalysis, biocatalysis, photocatalysis, photovoltaics and photosensing</b>  |
|               | <b><u>Chairs:</u> Dr. Didier Robert (Univ. Lorraine &amp; Univ. Strasbourg, France) / Prof. Mounir Gaidi (University of Sharjah, UAE)</b>   |
| 16:30 - 17:00 | <b><u>Invited talk:</u> "Photocatalytic properties of chromium- and iron-doped barium titanate", Prof. Andreas Ruediger, INRS-EMT, Canada.</b>  |
| 17:00 - 17:20 | "Laser induced breakdown spectroscopy-based platform for drillcore logging and ore sorting", <b><u>K. Rifai</u>, F. Doucet, L. Özcan, F. Vidal, INRS-EMT/Elemision, Canada</b>  |
| 17:20 - 17:40 | "Deposition of adherent diamond coatings on SS316 steel substrate with duplex Al/Si thin interlayer", <b><u>Qiaoqin Yang</u>, Y.S. Li, J. Corona-Gomez, C.Z. Zhang, M. Mohammadtaheri, University of Saskatchewan, Canada.</b>  |
| 17:40 - 18:00 | "CMOS compatible Hf <sub>0.5</sub> Zr <sub>0.5</sub> O <sub>2</sub> ferroelectric tunnel junctions", <b><u>Raul Arriaga Benitez</u>, Y.G. Hernandez, A. Dörfler, R. Katoch, A. Ruediger, <i>et al.</i> ..., INRS-EMT, Canada.</b>   |
| 18:00 - 18:20 | "Improved photocharge properties of visible light active in-situ codoped TiO <sub>2</sub> :WN", <b><u>Nazar Delegan</u>, R. Pandiyan, A. Dirany, S. Johnston, P. Drogui, T. Teranishi, and M.A. El Khakani, INRS-EMT, Canada</b>  |
| 18:20 - 18:40 | "Nanostructured layer-onto-layer methanol-tolerant catalysts for oxygen reduction reaction and their use in mixed-reactant micro direct methanol fuel cells", <b>J.C. Abrego- Martinez, Y. Wang, ..... , L.G. Arriaga, Sh. Sun, and M. Mohamedi, INRS-EMT, Canada.</b>                    |
| 18:40 - 19:00 | "Performance analysis of Photovoltaic-Thermal air collectors combined with a water to air heat exchanger used for renewed air conditioning in building", <b><u>O. Hachchadi</u>, M. Bououd, A. Mechaqrane, SMBA University, Fez, Morocco.</b>   |

## Detailed Conference Program (Room B: Hibiscus)

| <b>Thursday Nov. 1st, 2018 (9:00 - 19:15) &amp;<br/>Friday Nov. 2nd, 2018 (8:10 -17:10)<br/>Poster Sessions (Room B: Hibiscus)</b>     |  |
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| <b>Theme #1: Advanced materials and Processes for Energy, Catalysis, Biocatalysis, Photocatalysis, Photovoltaics, and Photosensing</b> |  |
| P.1  | "Degradation of organic pollutants in aqueous solution by catalysts M-TiO <sub>2</sub> / (M = Fe, W)", <b>Ahcène SOUALAH, G. Foura, M. Guidotti, University of Bejaia, Algeria.</b>  |
| P.2  | "Synthesis, characterization and catalyst support properties of titanium dioxide nanorods grown on various substrates", <b>Naser Mohammadi, J.C. Abrego Martinez, H. Wang, S. Shuhui and M. Mohamedi, INRS-EMT, Canada.</b>  |
| P.3  | "Electronic passivation properties of porous silicon layers decorated with pulsed-laser-deposited PbS nanoparticles", <b>Ameni Rebhi, A.Hajjaji, I. Ka, M. Ben Rabha, M. Gaidi, B. Bessais, M. A. El Khakani, CRTEn, Technopole Borj-Cedria, Tunisia &amp; INRS-EMT, Canada.</b>   |
| P.4  | "Hybrid TiO <sub>2</sub> -Graphene nanoribbon photoanodes to improve the photoconversion efficiency of dye sensitized solar cells", <b>Rusoma Akilimali, G.S. Selopal, D. Benetti, I.S. Esparza, P. Algarabel, ..... , B. Stansfield, H. Zhao, and F. Rosei, INRS-EMT, Canada.</b> |
| P.5  | "Synthesis, characterization and photocatalytic properties under UV and visible light irradiations of new ZnO-Bentonite/Chitosan hybrid biocomposites", <b>Omar Zegaoui, I. Aadnan, I. Daou, H. Moussout, H. Ahlafi, A. Amachrouk, Moulay Ismail University, Morocco.</b>          |
| P.6  | "Ambient temperature effects on the ultrafast carrier dynamics in graphene revealed by terahertz spectroscopy", <b>X. Chai, H.A. Hafez, I. Al-Naib, Y. Sekine, M. Takamura, K. Oguri, M. M. Dignam, H. Hibino and T. Ozaki, INRS-EMT, Canada.</b>                                  |
| P.7  | "Pulsed laser deposited CZTS absorber layers for integration in CZTS/n-Si heterojunction solar cells", <b>Zakaria Oulad Elhmaidi, R. Pandiyan, M. Abd-Lefdil, and M. A. El Khakani, Université Mohamed-5, Rabat, Morocco, and INRS-EMT, Canada.</b>                                |
| P.8  | "Intense THz pulses from HMQ-TMS organic crystal pumped at 1030 nm", <b>Andrea Rovere, Y. -G. Jeong, R. Piccoli, ....., R. Morandotti, L. Razzari, INRS-EMT, Canada.</b>   |
| P.9  | "Photocurrent Enhancement of TiO <sub>2</sub> Nanotubes Decorated by Pulsed-Laser-Deposited PbS Nanoparticles", <b>Anouar Hajjaji, S. Jemai, K. Trabelsi, M. Gaidi, B. Bessais and M. A. El Khakani, CRTEn, Technopole Borj Cedria, Tunisia &amp; INRS-EMT, Canada.</b>            |
| P.10   | "One-pot hydrothermal synthesis of phosphorus-doped MoSe <sub>2</sub> as efficient electrocatalyst for hydrogen evolution reaction", <b>Xuan Thai Tran, C. Bogaert, and M. Sij, Université du Québec à Montréal, Canada.</b>   |
| P.11   | "Photoluminescence properties of drop-casted films of silicon nanostructures as grown and after annealing in nitrogen atmosphere", <b>S. Freddi, F. Fabbri, M. Agati, ....., M. Scarselli, R. Dolbec, M. A. El Khakani, P. Castrucci, Università di Roma Tor-Vergata, Italy.</b>   |

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| P.12 | "Theoretical study of zeolitic imidazolate frameworks used in the synthesis of carbon-based catalysts for hydrogen fuel cells", <b>M. Cherif, Sh. Sun, and F. Vidal, INRS-EMT, Canada.</b>  |
| P.13 | "Optimization of valsartan encapsulation in biodegradable polyesters using Box-Behnken design", <b>Farouk Rezgui, O. Sadoun, C. G'SELL, Université de Bejaia, Algeria.</b>  |
| P.14 | "Passivation of monocrystalline silicon via a novel silicon nanowires/Al <sub>2</sub> O <sub>3</sub> dual treatment", <b>Anouar Hajjaji, C. Amri, M. Ben Rabha, R. Ouarteni, M. Gaidi, B. Bessais and M. A. El Khakani, CRTEn, Technopole Borj Cedria, Tunisia &amp; INRS-EMT, Canada.</b>  |
| P.15 | "LiLuF <sub>4</sub> : Nd <sup>3+</sup> as near-infrared contrast agents and nanothermometers", <b>Alexandre Morinvil, A. Skripka, Ch. Ting, and F. Vetrone, INRS-EMT, Canada.</b>   |
| P.16 | "Material Characterization Through Near Field THz Imaging", <b>Fatemeh Amirkhan, T. Ozaki, K. Tanaka, and F. Blanchard, ETS-Montréal, Canada.</b>   |
| P.17 | "Integration of single-wall carbon nanotubes thin films into novel and powerful nano-hetero- junctions based solar cells", <b>Émile Lamontagne-Caron, P. Castrucci, and M. A. El Khakani, INRS- EMT, Canada &amp; Univesità di Roma Tor-Vergata, Italy.</b>   |
| P.18 | "Size fractionation of graphene oxide sheets by differential centrifugation", <b>Khaled Rhili, S. Chergui, and M. Siaj, Université du Québec à Montréal, Canada.</b>  |
| P.19 | "Photoelectrochemical and optical properties tuning of graphene-ZnO nanocomposites" , <b>Moez Salem and M. Gaidi, University of Gabes, Tunisia &amp; Univ. of Sharjah, UAE.</b>   |
| P.20 | "Multicolor emission from LiYbF <sub>4</sub> :Tm <sup>3+</sup> @LiYF <sub>4</sub> core@shell structures with various Tm <sup>3+</sup> doping concentration", <b>Ting Cheng, A. Peyrelongue, A. Skripka, R. Marin, and F. Vetrone, INRS-EMT, Canada.</b>   |
| P.21 | "Terahertz-characterization of a printed vortex phase plate", <b>M. Zhuldybina, X. Ropangol, C. Trudeau, M. Bolduc, R.J. Zednik and F. Blanchard, ETS-Montreal &amp; INRS-EMT, Canada.</b>  |
| P.22 | "Yb laser pulse compression from 170 to 5.1 fs on a single hollow core fiber", <b>Young-Gyun Jeong, R. Piccoli, D. Ferachou, V. Cardin, M. Chini, S. Hädrich, J. Limpert, R. Morandotti, F. Légaré, B.E. Schmidt, and L. Razzari, INRS-EMT, Canada.</b>   |
| P.23 | "Enhancing the photoconversion efficiency of DSSC devices through the optimal design of their graphene-TiO <sub>2</sub> photoanodes and Co-Ni nanoparticles decorated MWCNTs cathodes", <b>Alessandra Imbrogno, R. Pandiyan, A. Macario, A. Bonanno and M. A. El Khakani, INRS-EMT, Canada &amp; Università di Calabria, Italy.</b> |
| P.24 | "Wavelength dependent functional excitation of rare earth nanoparticles – decoupling theranostics", <b>Artiom Skripka, V. Karabanovas, G. Jarockyte, R. Marin, V. Tam, M. Cerruti, R. Rotomskis, and F. Vetrone, INRS-EMT, Canada</b>   |
| P.25 | "Investigation of chromium doping effect on VO <sub>2</sub> using reactive pulsed laser ablation", <b>Aminat O. Suleiman, T. Hajlaoui, N. Emond, T. Bégin, and M. Chaker, INRS-EMT, Canada.</b>   |

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| P.26 | "Hard Cr <sub>2</sub> O <sub>3</sub> coatings prepared by reactive magnetron sputtering technique: a potential candidate for orthopedic implants", <b>M. Mohammadtaheri, Y.S. Li, Qiaoqin Yang, University of Saskatchewan, Canada.</b>  |
| P.27 | "NIR temperature sensing at the nanoscale with Nd <sup>3+</sup> -doped Gd <sub>3</sub> Sc <sub>2</sub> Al <sub>3</sub> O <sub>12</sub> nanoparticles", <b>Marija Matulionyte, G. Dantelle, M. Wang, Ng Win Fu Michael Elloit, K.K. Bhakoo, A. Ibanez, and F. Vetrone, INRS-EMT, Canada</b> |

### **Theme #2: Advanced materials and Processes for Environment and Health**

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| P.28 | "Anode vs. cathode driven air plasma in contact with water for methylene blue degradation", <b>James Diamond, J. Profili, A. Hamdan, Université de Montréal, Canada.</b>  |
| P.29 | "Monitoring of Cyanobacteria using spectrophotometry and improvement of detection using derivative spectrophotometry", <b>A. Malhotra and B. Örmeci, Carleton University, Canada.</b>   |
| P.30 | "Graphene oxide foam immobilized aptamer as hormones removal membrane", <b>Siham Chergui, S. Poorahong and M. Siaj, Université du Québec à Montréal, Canada.</b>  |
| P.31 | "Formulation of green emulsified liquid membrane for toxic chromium (Cr(VI)) recovery: characterization, demulsification and diluent reuse", <b>O. Senhadj-Kebiche, K. Anarakdim, M. Matos, University of Bejaia, Algeria.</b>  |
| P.32 | "Stimuli-responsive Polymer Bioconjugates for the Purification of Monoclonal Antibody Fragments", <b>Palapuravan Anees and M. A. Gauthier, INRS-EMT, Canada.</b>  |
| P.33 | "Pharmacological diversity following UT-AT1R activation", <b>Hassan Nassour, T.E. Hébert, and D. Chatenet, INRS-IAF &amp; McGill University, Canada.</b>  |
| P.34 | "Optimisation du procédé de dégradation photocatalytique des polluants organiques en solution aqueuse: Influence du mélange des constituants", <b>Smail Merabet, Z. Zabar, D. Robert, A. Bouzaza, University of Bejaia, Algeria.</b>  |
| P.35 | "Novel fluidized bed biofilm reactor for microcystin-LR and organics removal", <b>Pratik Kumar, K. Hegde, S. Kaur Brar, M. Cledon, A. Kermanshahi pour, INRS-ETE, Canada.</b>   |
| P.36 | "Transformation photocatalysis of Chloridazon in advanced oxidation processes using LC/ESI+/MS2 technique: Analytical studies", <b>Hakima Azaari, M. Elazzouzi, M. Sarakha, Université Mohamed V-Rabat, Morocco.</b>  |
| P.37 | "Conjugated polymer films assembled at the water-air interface", <b>Ilknur Eryilmaz, O. Borozenko, A. Badia, and E. Orgiu, INRS-EMT &amp; Univ. De Montréal, Canada.</b>  |
| P.38 | "Influence of in-situ gas atmosphere during synthesis of g-C <sub>3</sub> N <sub>4</sub> for enhanced photocatalytic H <sub>2</sub> production from water on Au/g-C <sub>3</sub> N <sub>4</sub> nanocomposites under solar and visible light irradiation", <b>Pablo Jiménez-Calvo, T. Cottineau, V. Caps, and V. Keller, CNRS/University of Strasbourg, France.</b> |
| P.39 | "Photodegradation of sulfonamide upon solar light excitation: kinetics and elucidation of byproducts using LC/ESI+/MS2 technique", <b>Soumaya Mezghich, F. Ayari, D. Ben Hassen Chehimi, and M. Sarakha, Clermont Auvergne University, France.</b>  |

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| P.40 | "Modeling of active chlorine production from a synthetic saline effluent by electrolysis using artificial neural networks", <b><u>Majid Gholami Shirkoohi</u></b> , <b>P. Drogui</b> , <b>P. Vanrolleghem</b> , and <b>F. Zaviska</b> , <b>INRS-ETE &amp; Université Laval, Canada</b>  |
| P.41 | "Electro-generation of hydrogen peroxide using a graphite cathode from exhausted batteries: Study of influential parameters on electro-Fenton process", <b>I. Diouf</b> , <b>O. Dia</b> , <b>P. Drogui</b> , <b><u>Sidy Mambaye Lo</u></b> ; <b>M. Rumeau</b> , <b>C. Gueye Mar/Diop</b> , <b>École Supérieure Polytechnique, Université Cheikh Anta Diop, Senegal.</b> |
| P.42 | "Ultrafiltration Membrane Bioreactor (UMBR) for Wastewater Treatment", <b><u>Sarra Kitanou</u></b> , <b>H. Ayyoub</b> , <b>M. Zait</b> , <b>M. Taky</b> , <b>A. Elmidaoui</b> , <b>Ibn Tofail University, Kenitra, Morocco.</b>   |
| P.43 | "Spatially-resolved effects of nodule-generated H <sub>2</sub> on microbial community composition and activity", <b><u>Anne de la Porte</u></b> , <b>Ph. Constant</b> , and <b>É. Yergeau</b> , <b>INRS-IAF, Canada.</b>  |
| P.44 | "Electrochemical conversion of pure and crude glycerol to produce platform molecules", <b><u>Ali Khosravanipour Mostafazadeh</u></b> , <b>P. Drogui</b> , <b>S.K. Brar</b> , <b>R.D. Tyagi</b> , <b>Y. Le Bihan</b> , <b>G. Buelna</b> , <b>INRS-ETE &amp; CRIQ, Québec, Canada.</b>  |
| P.45 | "Implication of UT receptor oligomerization in observed functional selectivity of urotensin II and l'urotensin II-relatedpeptide", <b><u>Mustapha Iddir</u></b> , <b>M. Letourneau</b> , <b>T. Hébert</b> , and <b>D. Chatenet</b> , <b>INRS-IAF &amp; McGill University, Canada.</b>   |
| P.46 | "Integrated membrane, adsorption, and electrochemical methods to treat and reuse laundry wastewater and surfactant elimination", <b><u>Ali Khosravanipour Mostafazadeh</u></b> , <b>P. Drogui</b> , <b>A.T. Benguit</b> , <b>A. Carabin</b> , <b>E. Brien</b> , <b>INRS-ETE, Canada.</b>  |
| P.47 | "EPS production by newly isolated bacterial strain grown on crude glycerol and pulp and paper wastewater activated sludge", <b><u>Bharti B</u></b> , <b>M.P. Rodriguez</b> , <b>S.K. Ram</b> , <b>S.K. Yellapu</b> , <b>J. Valero</b> , <b>R.D. Tyagi</b> , <b>J.A.B. Perez</b> , <b>INRS-ETE, Canada &amp; Ciudad Universitaria, Mexico.</b>                           |
| P.48 | "Treatment of compost and landfill leachates by electrochemical processes", <b><u>Alae Benguit</u></b> , <b>A. Carabin</b> , <b>P. Drogui</b> , and <b>D. Landry</b> , <b>INRS-ETE &amp; Englobe, Canada.</b>   |
| P.49 | "Selective recovery of indium from spent LCD screens using a hydrometallurgical process", <b><u>El Houssaine Moutiy</u></b> , <b>L. Huong Tran</b> , <b>K. Mueller</b> , <b>L. Coudert</b> , and <b>J. F. Blais</b> , <b>INRS-ETE &amp; Université du Québec en Abitibi-Témiscamingue, Canada.</b>  |
| P.50 | "Ciprofloxacin: its distribution during wastewater treatment and its potential removal improvement", <b><u>Agnieszka Cuprys</u></b> , <b>S. K. Brar</b> , and <b>P. Drogui</b> , <b>INRS-ETE, Canada.</b>   |