

Program: XV International Congress of the Mexican Hydrogen

ID	Title	Modality
SMH15-205	Use of Hydrogen for sustainable urban transportation in Cuenca, Ecuador"	ORAL
SMH15-206	Optimization of stack performance of low power PEM Fuel Cells	ORAL
SMH15-207	Hydrodeoxygenation of oxygenated organic compounds using Ni / $\gamma$ -Al <sub>2</sub> O <sub>3</sub> performed by the wet impregnation incipient	ORAL
SMH15-208	Infraestructure analysis of the hydrogen refueling station in Mexico	ORAL
SMH15-209	Ionic and thermal conductivity of Ln <sub>2</sub> Hf <sub>2</sub> O <sub>7</sub> hafnates (Ln=lanthanides) prepared by mechanical milling	ORAL
SMH15-210	Electrical properties of Gd <sub>1-x</sub> CaxTi <sub>2</sub> O <sub>7-<math>\delta</math></sub> ionic conductors obtained by a novel ultrasound-assisted wet-chemistry method	POSTER
SMH15-211	Energy balance analysis of a solar-hydrogen hybrid system integrated to a sustainable house	POSTER
SMH15-212	Solar radiation measurements to optimize a PV system according to local weather conditions	POSTER
SMH15-213	Electrocatalytic oxygen evolution reaction in alkaline media using a hydrotalcite-like material Ni/Co-Fe	ORAL
SMH15-214	Insertion/Desertion of Na <sup>+</sup> and Mg <sup>2+</sup> in Cobalt Hexacyanoferrate towards electrochemical energy storage	ORAL
SMH15-215	Photobiological Hydrogen production by Chlamydomonas sp. and Chlorella sp	ORAL
SMH15-216	First-principles studies of graphene for its application in PEMFC: A review	POSTER
SMH15-217	A first-principles study of Co-Ni@Pt core-shell electrocatalysts for the oxygen reduction reaction	ORAL
SMH15-218	Kinetic study of Ptx/Moy/CNT electrocatalyst in oxygen reduction reaction	POSTER
SMH15-219	Synthesis, characterization and evaluation of Ni@Pt and Fe@Pt nanoparticles with core-shell structure to the electro-oxidation reaction of ethanol	ORAL
SMH15-220	Reactor with agitation of double twist for hidrotreating of oxygenated compounds organic"	POSTER
SMH15-221	Performance of a microtubular SOFC with an LSCF based composite as cathode	ORAL
SMH15-222	"Efficient photoreforming of glycerol on Ag/TiO <sub>2</sub> /ZSM-5 composites under UV and visible light	POSTER
SMH15-223	Pd and Pd-NiO as anodes in a paper-based ethanol membraneless nanofluidic fuel cell"	POSTER
SMH15-224	Improvement of novel microbial fuel cell design for wastewater treatment"	ORAL
SMH15-225	Use of Clay tube as integrated microbial fuel cell for wastewater treatment	ORAL

SMH15-226	Instant disposable Microbial-battery from paper cup for electronic applications	ORAL
SMH15-227	Energy management system for a hybrid hydrogen-solar sustainable house	ORAL
SMH15-228	Photocatalytic hydrogen production using Pd, Co and Ni oxides based on Au/TiO <sub>2</sub> catalysts	ORAL
SMH15-229	Effect of surfactant concentration and metal salt molar ratio on the stability, structure and activity in ORR of Ni@Pt-Pd core-shell	ORAL
SMH15-230	Nb coating could enhance electrocatalytic performance and lifetime of Ni cathode in MCFC	ORAL
SMH15-231	Design of a microfluidic system in a PEMFC cell	ORAL
SMH15-232	Hydrogen production from Methanol/Water photocatalytic decomposition using Pt catalysts supported on hollow@TiO <sub>2</sub> core-shell nanostructures	ORAL
SMH15-233	Hydrogenation and dehydrogenation in air-exposed Mg-Fe mixtures	ORAL
SMH15-234	Dehydrogenation study of LiAlH <sub>4</sub>	POSTER
SMH15-235	On the dehydrogenation of 2LiBH <sub>4</sub> /Al mixture	ORAL
SMH15-236	On the hydrogenation of 2LiH/AlB <sub>2</sub> mixture	POSTER
SMH15-237	A novel production method of TiFeHx-Ni for hydrogen storage	POSTER
SMH15-238	Polyaniline films fabricated by electrochemical polymerization: A systematic electrochemical study	POSTER
SMH15-239	Synthesis and characterization of Pr <sub>0.9</sub> Sr <sub>0.1</sub> Ni <sub>0.6</sub> Fe <sub>0.4</sub> O <sub>3</sub> perovskite as cathode material for intermediate temperature solid oxide fuel cell	ORAL
SMH15-240	Photocatalytic hydrogen evolution on TiO <sub>2</sub> /HKUST-1 composites under visible light	ORAL
SMH15-241	Effect of porosity on IEC and water distribution for sulfonated poly(styrene-co-acrylic acid) PEM copolymer	ORAL
SMH15-242	Polystyrene-co-acrylic acid proton exchange membranes: morphology and mechanical properties	POSTER
SMH15-243	Co-culture specific bacteria for hydrogen production in organic waste in different culture media	POSTER
SMH15-244	Hydrogen production from compost leachates in an acidogenic SBR	POSTER
SMH15-245	Control implementation of a DC-DC energy router for renewable sources	POSTER
SMH15-246	Protic ionic liquids as "all-in-one" solvent toward the green synthesis of metal oxides	ORAL
SMH15-247	Photocatalytic hydrogen production with TiO <sub>2</sub> -Ni <sub>x</sub> O <sub>y</sub> as mixed oxide	POSTER
SMH15-248	Impedance study of the electrocatalytic reduction of oxygen on Pt/C and Pt-Ag/C	POSTER

SMH15-249	Improved hydrogen production by pretreating a solids stream derived from an OFMSW biorefinery	ORAL
SMH15-250	Development of Nickel hollow spheres electrocatalysts for ethanol electrooxidation in alkaline media	ORAL
SMH15-251	Ion conduction in membranes of sulfonated polyetherimide: Theoretical study	ORAL
SMH15-252	Photoelectrocatalysis hydrogen production by Au, Pt doped TiO <sub>2</sub>	POSTER
SMH15-253	Statistical analysis of the microstructure of a proton exchange membrane fuel catalyst layer	POSTER
SMH15-254	Evaluation of microorganisms settling ability in hydrogen production	POSTER
SMH15-255	Selective heterogeneous nucleation of Platinum nanoparticles onto graphitic domains of multi-walled carbon nanotubes	ORAL
SMH15-256	Kinetic study of hydrogen storage in calcium oxide	POSTER
SMH15-257	Electrochemical properties of low cost free-metal electrocatalyst obtained from waste materials	POSTER
SMH15-258	Comparative study of different carbon supported Fe <sub>2</sub> O <sub>3</sub> @Pt catalysts for oxygen reduction reaction	POSTER
SMH15-259	Design and analysis of photovoltaic-hydrogen system for illumination and fuel cell characterization	ORAL
SMH15-260	New catalytic technology implementation on the hydrogen production industry	ORAL
SMH15-261	A screening of hydrogen evolution during photocatalytic CO <sub>2</sub> reduction	POSTER
SMH15-262	Synthesis and characterization of carbon nanofibers for fuel cell applications	ORAL
SMH15-263	Preparation of electrospun SPEEK-PVB nanofiber embedded in SPEEK-PVA blend as composite membrane for PEM fuel cell	ORAL
SMH15-264	Assembly and characterization of a PEM electrolyser for hydrogen generation from wave power	POSTER
SMH15-265	Methanol oxidation on Au@Pt and Cu@Pt core-shell electrocatalysts	ORAL
SMH15-266	Formic oxidation on core-shell Au@Pt/C electrocatalyst	ORAL
SMH15-267	Oxyhydrogen gas production for fuel enriched in internal combustion engine	ORAL
SMH15-268	Dissociative mechanism of oxygen reduction reaction (ORR) on Pd-Cu disordered binary alloy metal surfaces: A theoretical study	POSTER
SMH15-269	New advanced 2D NiAu@Pt nanolayers with high electrocatalytic activity for the oxygen reduction reaction	ORAL
SMH15-270	Biosynthesis of iron nanoparticles for perchloroethylene treatment	ORAL

SMH15-271	TiO <sub>2</sub> nanotubes array sensitized with CdS and Sb <sub>2</sub> S <sub>3</sub> , for photoelectrochemical hydrogen generation	ORAL
SMH15-272	Public policy performance for social development: solar energy approach to assess technological outcome in Mexico City metropolitan area	POSTER
SMH15-273	Cellulose, hemicellulose and lignin from urban waste to saccharides by hydrolysis for biohydrogen production	POSTER
SMH15-274	Numerical study of heat transfer in a PEM fuel cell with different flow- fields	POSTER
SMH15-275	Numerical evaluation of a PEM electrolyzer using computational fluid dynamics	POSTER
SMH15-276	W <sub>1-x</sub> MoxO <sub>3</sub> *0.33H <sub>2</sub> O compounds synthesized by hydrothermal and microwave-radiation for H <sub>2</sub> production	POSTER
SMH15-277	High performance Pd-based catalysts for electro-oxidation of formic acid	ORAL
SMH15-278	Comparative electrocatalytic study of Fe <sub>3</sub> O <sub>4</sub> @Pt/C and Fe <sub>2</sub> O <sub>3</sub> @Pt/C core-shell nanostructures for the ORR	ORAL
SMH15-279	Development of an electrolysis stack type solid polymer electrolyte	POSTER
SMH15-280	Development of polymer solid electrolyte type fuel cell stack of H <sub>2</sub> /O <sub>2</sub>	POSTER
SMH15-281	Development of a fuel cell of ethanol direct the type PEM	POSTER
SMH15-282	Thermo mechanical system for manufacturing fuel cell electrodes	POSTER
SMH15-283	Development of micro electrodes by alternative system	POSTER
SMH15-284	Design and characterization of fuel cell regenerative for social communications	POSTER
SMH15-285	An optimization study of the electrophoretic deposition parameters to prepare PEMFC electrodes using non-asymmetric AC electric field	POSTER
SMH15-286	Effect of change in shape of electrocatalysts core-shell Au-Pd in the oxygen reduction reaction	POSTER
SMH15-288	Specific and mass activities of Ni-Pd nanoparticles for the oxygen reduction reaction in acid medium	POSTER
SMH15-289	Quantum yield for hydrogen production in photocatalytic water splitting using TiO <sub>2</sub> -Pt prepared by different methodologies	POSTER
SMH15-290	Preparation and electrochemical study of M:TiO <sub>2</sub> (M= Sn, Ta, V) as support of IrO <sub>2</sub> for oxygen evolution reaction	POSTER
SMH15-291	Physicochemical and stability study of Ir-Sn-Sb-O materials as catalyst-supports for the oxygen evolution reaction	ORAL
SMH15-292	Hydrogen storage of Mg nanoparticles confined in carbon cryogels	POSTER
SMH15-293	Cascaded multilevel inverter for fuel cell applications	ORAL
SMH15-294	Technical and economical feasibility Analysis of biorefineries for hydrogen production	ORAL

SMH15-295	Innovative functionalization of graphene to increase the catalytic activity of Pt/Gr electrocatalyst for the methanol oxidation reaction (MOR)	ORAL
SMH15-296	Defects and disorder in the Gd <sub>2</sub> Hf <sub>2</sub> -xZrxO <sub>7</sub> solid solution: mechanochemical synthesis, characterization and electrical properties	ORAL
SMH15-297	Preparation of sulfonic-functionalized mesoporous carbon as ion-exchange material for fuel cells applications	POSTER
SMH15-298	Synthesys of carbon nanomaterials doped with sulfur as electrocatalysts in fuel cells	ORAL
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SMH15-300	Simulation process of alkaline electrolyzers to save natural gas in food dehydration plant	POSTER
SMH15-301	Modelling membraneless fuel cell with finite element method	POSTER
SMH15-302	Synthesis and characterization of Sn@Pt/C and Ru@Pt/C core-shell nanocatalysts for the EOR	POSTER
SMH15-303	Effect of organic molecule (ethylenediamine) in the preparation of ZnS and ZnS(hybrid) semiconductor in H <sub>2</sub> production	POSTER
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SMH15-306	Electrocatalytic Oxygen Reduction Reaction (ORR) on nanostructured Pt-NiTiO <sub>3</sub> /C catalyst in alkaline media	POSTER
SMH15-307	Photoelectrochemical behavior of tio <sub>2</sub> nanorods film decorated by silver nanoparticles	POSTER
SMH15-308	Effect of the graphene and other supports for the oxygen reduction and evolution in alkaline media	ORAL
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SMH15-310	Bimetallic cores decorated with Pt as electrocatalyst for PEM fuel cell	ORAL
SMH15-311	Design and implementation of electronic control system to enriched gasoline with oxi-hydrogen in internal combustion	POSTER
SMH15-312	Evaluation of the bismuth content effect on cathodic catalysts for PEM fuel cells	POSTER
SMH15-313	Thermodynamic analysis of the ethanol chemical looping autothermal reforming with CO <sub>2</sub> capture	POSTER
SMH15-314	Technical analysis and environmental gains of including biohydrogen in a conventional oil refinery	ORAL

SMH15-315	Harvesting energy from leachates in microbial fuel cells using an anion exchange membrane	POSTER
SMH15-316	Role of functionalized carbon support on the electroactivity of Platinum and Palladium	POSTER
SMH15-317	Effect of different wavelength on the efficiency of Photosystem II and lipid synthesis in <i>Botryococcus braunii</i> UTEX 2441	ORAL
SMH15-318	Emerging electrochemical technologies for hydrogen utilization: redox flow batteries	ORAL
SMH15-319	Analysis of the oxygen reduction reaction in core-shell nanoparticles	ORAL
SMH15-320	Trends of the production of Biohydrogen from Algae: A Review	POSTER
SMH15-321	Biological production of CO <sub>2</sub> -free hydrogen by anaerobic microbial mixed microflora in an upflow anaerobic sludge blanket (UASB) reactor	POSTER
SMH15-322	Response of cerium incorporation at TiO <sub>2</sub> nano-structures for induced electrochemical and capacitive processes at neutral conditions	POSTER
SMH15-323	Hydrogen adsorption process in Magnesium-Aluminum compounds (Mg <sub>25</sub> Al, Mg <sub>50</sub> Al and MgOAl) varying pressure and temperature conditions	POSTER
SMH15-324	Review: Pretreated solid potential applied to a OFMSW biorefinery to improve the performance of hydrogen production	ORAL
SMH15-325	Optimal conditions of pomace slow pyrolysis for the generation of a feedstock gas for Hydrogen production	POSTER
SMH15-326	Flow of hydrogen adapted to cell fuels using recycled aluminum	ORAL
SMH15-327	Synthesis and characterization of membranes based on agar-agar-KCl	POSTER
SMH15-328	Nanostructured ionic conductors thin films for solid oxide fuel cells deposited by ultrasonic spray pyrolysis	POSTER
SMH15-329	Synthesis of biodiesel and value-added products from glycerol using sodium and lithium silicate	POSTER
SMH15-330	Synthesis of carbon nanotubes doped with nitrogen towards the ORR in alkaline media	ORAL
SMH15-331	Hybrid membranes for microbial fuel cells	POSTER
SMH15-332	Electrocatalytic properties of Ni, Co and Ni-Co nanoparticles for hydrogen evolution reaction in alkaline medium	POSTER
SMH15-333	Effect of the phenolic compounds in the sugar cane bagasse saccharification for the lignocellulosic ethanol production	ORAL
SMH15-334	Hydrogen production research in Mexico: A Review	POSTER
SMH15-335	Separators in microbial fuel cells: a Review	POSTER
SMH15-336	Biocathodes, a bioelectrochemical technology for electricity generation and effluents treatment: a review	ORAL

SMH15-337	Revising the molecular dynamics of hydrogen within the sulfur-ammonia photothermochemical cycle through NMR spectroscopy	ORAL
SMH15-338	A review on microbial fuel cell technology for soil and sediment remediation	POSTER
SMH15-339	Alternative membranes to replace Nafion membranes in microbial fuel cells	POSTER
SMH15-340	Microbial fuel cells fed with municipal wastewater and leachates	POSTER
SMH15-341	Market research in Mexico of Hydrogen technologies	POSTER
SMH15-342	Used disposable diapers as substrate for hydrogen production: Effect of temperature and diaper conditioning	ORAL
SMH15-343	Electrochemical evaluation of the Pd-Fe <sub>3</sub> O <sub>4</sub> /C nanocatalyst as highly active anode for the oxidation of organic molecules	POSTER
SMH15-344	synthesis and characterization Pt/WO <sub>3</sub> supported on CNT for oxygen reduction reaction	POSTER
SMH15-345	Hidrógeno líquido	ORAL
SMH15-346	DFT study of W <sub>1-x</sub> MoxO <sub>3</sub> ·0.33H <sub>2</sub> O (x=0 to 1) photocatalyst: importance of +U and +J on-site terms	POSTER
SMH15-347	Synthesis, characterization and photocatalytic evaluation of M <sub>1-x</sub> M' <sub>x</sub> WO <sub>4</sub> (M, M' = Ni, Co, Cu and Mn) Tungstates	POSTER
SMH15-348	Using hydrogen fuel and bio-ethanol in internal combustion engines to reduce emissions of greenhouse gases	POSTER
SMH15-349	Micro-direct methanol fuel cells	POSTER

Plenarias
Dra. Perla Balbuena: Analysis of the Oxygen Reduction Reaction in Core-Shell Nanoparticles
Prof. Andrzej Lasia: Determination of the kinetics of the hydrogen evolution reaction
Prof. Rajeshwar Krishnan: Renewable Hydrogen and Solar Fuel: A Viable Paradigm?
Dr. Dominic Francis Gervasio Membranes for hydrogen storage