XXI INTERNATIONAL CONGRESS
OF THE MEXICAN HYDROGEN SOCIETY

Thursday 23rd

Poster Program

15:00-17:30

Instructions for the poster session

Log in 5 minutes before starting the session

Enter with the microphone and video turned off

Identify yourself with the work number and name. Example: 747-M. Hernandez

Each work will have 5 minutes of exposure

The moderator will indicate when your presentation begins according to the program

The specific questions can be made by e-mail

The links to the posters are shown in the program

CONACYT CICY Sociedad Mexicana del Hidrógeno A.C.

Poster Program

15:00-17:30

Topic		Hydrogen Production, Storage and Applications
Block	**Work ID**	
Blujeans session		
A	102	*Inhibition of biohydrogen production of food waste by changes on microbial community* Manuel Canto-Robertos, Carlos Quintal-Franco, Iván Moreno-Andrade Sway: https://sway.office.com/csYup87PHDlGXPw0
A	107	*Preparation of an hybrid photocatalyst $ZnS(C_6H_{16}N_2)/ZnO$ for photocatalytic hydrogen production* Williams E. Sánchez-Rivera, C. García-Mendoza, M. A. Álvarez-Lemus, R. López-González, D. M. Frías Márquez, G. Jácome –Acatitla Sway: https://sway.office.com/9qkCwGdhbQutsuVY?ref=Link
A	108	*Design of a PV-assisted electrolysis hydrogen production prototype* M. Camas-Nafate, A. Coronado-Mendoza, F. Espinosa-Moreno, C. Vega-Gómez Sway: https://sway.office.com/BnnBvHPDEII3fKgk?ref=Link&loc=mysways
A	109	*Low-Temperature hydrogenation and microstructural evolution of Mg base alloys processed by HPT* M. Osorio-García, M. Fibela-Esparza, A. Tejeda-Ochoa, Kametani Nagamasa, K. Suárez-Alcántara, A. Salinas-Rodríguez, O. Hernández Silva, M. Herrera-Ramírez, C. Casas-Quesada, J.M. Cabrera-Marrero, Y. Todaka, J. G. Cabañas-Moreno Sway: https://sway.office.com/199uDSF9III0tf4J?ref=Link
A	110	*Hydrogen production from methane decomposition using ruthenium catalysts supported on different alumina gamma precursor salts* M. Caballero Díaz, G. A. Del Ángel Montes, R. Mendoza-Serna, A. J. Chong-Santiago Sway: https://sway.office.com/SbVnpASN7sgxBeJw?ref=Link
A	111	*The effect of neodymium content on the properties of Pd/γ-Al_2O_3 catalysts for the conversion of methane to hydrogen, as well as their influence on activity and catalytic stability* M. Caballero Díaz, G. A. Del Ángel Montes, R. Mendoza-Serna, A. J. Chong-Santiago Sway: https://sway.office.com/LYTNWAQpNfkwhOGI?ref=Link

A	114	*Electrochemical Reforming of Glycerol for Green Hydrogen Production in a Batch Reactor: Optimization by Response Surface Methodology* Alejandro Regalado-Méndez, Diego A. Vizarretea-Vásquez, Aitor Aizpuru, Edson E. Robles-Gómez, Reyna Natividad, Gerardo Martínez-Villa, Ever Peralta-Reyes Sway: https://sway.office.com/fpusum6GKpOdo6C5?ref=email
A	117	*Design,construction, and performance of PEM electrolyzer* E. Escobedo, M. Ruiz, A. Izquierdo, D. Pacheco, L.C. Ordoñez Sway: https://sway.office.com/9aitUQGokLVmX3Ni?ref=Link
A	121	*Regulation of ferredoxin (FDX) gene and genetic variability among algae could improve H_2 production* Tamayo-Ordoñez Y.J., Ayil-Gutiérrez B.A., Moreno Davila I.M.M., García-Castillo M.J., Tamayo-Ordoñez F.A., Córdova-Quiroz A.V., Damas-Damas S., Ruiz-Marin A., Robles-Heredia J.C. and Tamayo-Ordoñez M.C. Sway: https://sway.office.com/m7OtZBFdGi8Gcswe?ref=email
A	123	*Integration of agave guishe biorefinery to produce butanol and H_2* Tifanny L. Padilla-Del Valle, Alejandro Rodríguez-Reyes, José Miguel García-Solís, Thelma K. Morales-Martínez, Ana G. Reyes, José A. Rodríguez-De la Garza, Miguel A. Medina-Morales, Gerardo de J. Sosa-Santillán, Mayela Moreno Dávila, Leopoldo J. Ríos González Sway: https://sway.office.com/IgwHjtI15GEYlic0?ref=Link
A	124	*Design of electrolyte cooling system for oxyhydrogen reactor* M.A Guerra-Ayala, A. Wintergerst- Felipe, R. de G. González-Huerta, J. M. Sandoval-Pineda Sway: https://sway.office.com/TTl1vtidMdQS7KZE?ref=Link
A	125	*Obtaining fermentable sugars for hydrogen production from Agave durangensis bagasse* F.J. Ríos Franquez, D.M. Núñez Ramírez, M.A. Escobedo Bretado, C.A. Alba Fierro, Medina Torres L., M.A. Martell Nevárez Sway: https://sway.office.com/kl65PuQNekCDKmef?ref=Link
A	103	*Zwitterionic liquid as chemistry agent for hydrogen desorption and release processes from limestone oil fields* Ernesto López-Chávez, Alberto García-Quiroz, José A. I. Díaz-Góngora, Fray de Landa Castillo-Alvarado Sway: https://sway.office.com/06skZesgAc0ZqpHl?ref=Link
A	105	*Hydrogen production by steam reforming of ethanol* José Luis Contreras, Jose Salmones, Beatriz Zeifert, Naomi N Hernández, Gustavo A. Fuentes Sway: https://sway.office.com/nDFoRZmwZc65qnsV?ref=Link

A	112	*Synthesis, characterization and evaluation of MoS_2 hybrid material modified with ethylenediamine in the photocatalytic production of H_2* J. I. Cano-Hernández, Williams Sánchez Rivera, C. García-Mendoza, M. A. Álvarez-Lemus, R. López-González, D. M. Frías Márquez, G. Jácome – Acatitla Sway:
Blujeans session		
B	130	*Effect of H_2 on the reduction of NO from Diesel emissions with a Pt-Ag/Al_2O_3- WOx/Cordierite catalyst* Naomi N. González, José Luis Contreras, Beatriz Zeifert, Gustavo A. Fuentes, Tamara Vázquez and Ricardo López M. Sway: https://sway.office.com/BBEcHgF1F3Do34DK?ref=Link
B	133	*Syngas Production by $NiWO_4$ and Ce-promoted Oxygen Carrier for Methane Partial Oxidation by a Chemical Looping Process* P.E. González-Vargas, J.M. Salinas-Gutiérrez, M.J. Meléndez-Zaragoza, V. Collins-Martínez, A. López-Ortiz Sway: https://sway.office.com/SIfyoIjyphB29xEE?ref=Link
B	134	*Graphene oxide based photoelectrodes for hydrogen production by photoelectrocatalysis* J.M. Oláguez González, R.H. Lara, J.G. Vázquez Arenas, M.A. González Lozano, M.A. Escobedo Bretado Sway: https://sway.office.com/Jh9lPLrZF8XqMKss?ref=Link
B	139	*Surface Topological modification by shot peening in electrodes for alkaline electrolysis* Miguel-Angel Cerro-Ramirez, Froylan-Alonso Soriano-Moranchel, Juan-Manuel Sandoval-Pineda, Rosa de Guadalupe Gonzalez-Huerta, Cesar-Eduardo Cea-Montufar Sway: https://sway.office.com/JgI3YmbiFQCG3GhS?ref=Link
B	213	*A DFT study of electronic density of states in graphene, graphene-N and graphene-B doped* K. A. Vega-Jiménez, G. Ramírez-Dámaso, B. I. Casimiro-Peralta, A. Moreno-Ruiz, V. García-Zepeda, F.L. Castillo-Alvarado, F. Caballero-Domínguez, E. Rojas-Hernández, J.A. Moreno-Hernández, L. D. Guzmán-Cortés, C. G. Zamora-Orozco Sway https://sway.office.com/INpB2EpDZ55oB4Ej?ref=email
B	142	*Optical properties study of Cu_2O-nanoparticles by a six-flux radiation model towards the photocatalytic hydrogen production* J. L. Domínguez-Arvizu, J. A. Jiménez-Miramontes, J. M. Castro Lozoya,

		F. A. Gaxiola-Cebreros, B. C. Hernández-Majalca, J. C. Pantoja-Espinoza, J. M. Meléndez-Zaragoza, J. M. Salinas-Gutiérrez, A. López-Ortiz, V. Collins-Martínez Sway: https://sway.office.com/oTaA6NzaAu8nr3gE?ref=Link
B	143	*Study of the photocatalytic properties of the spinel-type $MnCo_2O_4$ sinthetized by hydrothermal towards the production of hydrogen from the water splitting under visible light* J. A. Jiménez-Miramontes, J. L. Domínguez-Arvizu, F. A. Gaxiola-Cebreros, B. C. Hernández-Majalca, J. C. Pantoja-Espinoza, J. M. Meléndez-Zaragoza, J. M. Salinas-Gutiérrez, A. López-Ortiz, V. Collins-Martínez Sway: https://sway.office.com/QiEvPEFWxbRhC2o3?ref=Link
B	144	*Green hydrogen production using graphene oxide-based photocatalysts* B. C. Hernández-Majalca, J. L. Domínguez-Arvizu, J. Jiménez-Miramontes,F. A. Gaxiola-Cebreros, G.E.Valenzuela-Castro, J. C. Pantoja-Espinoza,F. M.J. Melendez-Zaragoza, J.M. Salinas-Gutiérrez, A. López-Ortiz, V. Collins-Martínez Sway: https://sway.office.com/soi8JJFV4WiFyoGS?ref=Link
B	145	*Study of the catalyst-absorbent system in the ethanol steam reforming using a Ni/KIT-6 catalyst and CaO as in situ CO_2 absorbent.* F.A Gaxiola-Cebreros, J. A. Jiménez-Miramontes, J. L. Domínguez-Arvizu1, B. C. Hernández-Majalca, J.M Castro-Lozoya, J. C. Pantoja-Espinoza, J. M. Meléndez-Zaragoza, J. M. Salinas-Gutiérrez, A. López-Ortiz, S.A Jiménez-Lam, V. Collins-Martínez Sway: https://sway.office.com/QNSHBC6ot7JwdoLt?ref=Link
B	146	*N-TiO_2/MO (M:Ni, Cu) films for hydrogen production using solar light* Luz I. Ibarra-Rodriguez, Juan C Pantoja-Espinoza, Edith Luevano-Hipolto, Luis F Garay-Rodriguez, Alejandro Lopez-Ortiz, Leticia M. Torres-Guerra, Virginia H. Collins-Martínez Sway: https://sway.office.com/94uxkyKEW9li4fXP?ref=Link
B	147	*Nitrogen content effect in doped ZnO as photocatalyst and its relation towards the hydrogen production under visible light* J. C. Pantoja-Espinoza, J. M. Salinas-Gutiérrez, M. J. Meléndez-Zaragoza, L. I. Ibarra-Rodríguez, J. M. Domínguez-Arvizu, B. C. Hernández-Majalca, J. A. Jiménez-Miramontes, J. M. Castro-Lozoya, F. Gaxiola-Cebreros, A. López-Ortíz, L. M. Torres-Guerra, V. H. Collins-Martínez Sway: https://sway.office.com/gjR60aPcVFdjJ2AE?ref=Link
B	148	*The P4G-Getting to Zero Coalition Partnership: Finding and supporting opportunities to decarbonise shipping in Indonesia, Mexico and South Africa* Santiago Suarez de la Fuente Tristan Smith, Allison Shaw, Domagoj Baresic, Camilo Velandia Perico, Wendela Schim van der Loeff Sway:
B	128	*Variation of the hydrogen combustion product as a function of the air-fuel*

		ratio S. Contreras, M. Sánchez, M. Escalante Sway:
B	137	*Improve Ti-Ni photocatalyst for hydrogen production by photocatalysis* A. Pérez-Larios, J. Bedia, Jose L. Rico, Carolina Belver Sway:
B	140	*Photocatalytic Hydrogen Production Through Ethanol Photoreforming with $SrTiO_3$ and $SrZrO_3$ Perovskites* A. G.-Grado, L. Torres-Guerra, L. Garay-Rodríguez Sway:
B	427	*Theoretical study about materials for hydrogen production* Héctor Daniel Morales Rodriguez, Juan Ignacio Rodriguez Hernández, Fray de Landa Castillo Alvarado Sway:
Topic		**Materials**
Blujeans session		
Block	**Work ID**	
C	402	*Graphene nanobuds as an alternative to hydrogen storage* Elizabeth Hernández Mendoza, Ana Lidia Martínez Salazar, José Aarón Melo Banda, Benjamín Portales Martínez Sway: https://sway.office.com/9SlYYSynJE0BjnQe
C	403	*Stability and catalytic properties of Pt-Ni clusters supported on pyridinic N-doped graphene nanoflake: A DFT study* D. Ruiz-Villalobos, H. Rojas Chávez, P. Calaminici, H. Cruz-Martínez Sway: https://sway.office.com/EJEwckQGsgp0Deii?ref=Link
C	404	*Oxygen Reduction Reaction on M-N doped graphene (M=Fe,Ni,Co) an ab-initio study* N. Eseiza, D. Gómez-Cholula, G. Ramos Sánchez Sway: https://sway.office.com/5MNAiQRbrSWFbltu?ref=Link
C	406	*Double hydrothermal green synthesis of Pt-Ni nanoparticules using Sargassum sp. extract for oxygen reduction reaction* Adriana G. Gamboa, David Rosas M., Jose Martín Baas, Beatriz Escobar M. Sway: https://sway.office.com/qtZBS1wLq3T5sJVb?ref=Link
C	411	*Nitrogen-Mesoporous carbon obtained by resin pyrolysis as catalytic support for PEMFC: Melamine concentration effect in resorcinol-formaldehyde resin* E. T Zanoni, L. Da Silva, R. Benavides, D. Morales-Acosta Sway: https://sway.office.com/LNpwfaoLOJihnfFD

C	412	*Kinetics and thermodynamics study of the $Sr_2FeMoO_{6-\delta}$ double Perovskite* José Juan Alvarado Flores, María Liliana Ávalos Rodríguez, Jorge Víctor Alcaraz Vera Sway: https://sway.office.com/Op7aZgUSl2IMAF8j?ref=Link
C	413	*Principal Component Analysis of Raman spectra of ammonia borane in the release of Hydrogen with different heating ramps* R. Hinojosa N., E. V. Mejía-Uriarte, R. Y. Sato Berrú Sway: https://sway.office.com/22eHzTYgn0qxAjMP?ref=Link
C	414	*SOFC solid electrolytes obtained by mechanochemistry; effect of Zr doping on the structural characteristics of Y-doped CeO_2* C. Bocardo-Roldán, J.A. Díaz-Guillén, J.C. Díaz-Guillén, K.P. Padmsree Sway: https://sway.office.com/S7GE4OdZvaQUo2Uf?ref=email
C	408	*Materials with potential application in fuel cells SOFC* Harby Alexander Martínez Rodriguez, Ziury Karina Ortiz Caballero, Daniel Lardizabal, Armando Reyes Rojas, Fabián Jurado Sway:
Blujeans session		
D	415	*Resorcinol-Formaldehyde Polymerization as a Model for Undestanding the formation of Mesoporous Carbon Electrocatalysts for the ORR* J.C. Carrillo-Rodríguez, R.E. Suárez-Hernández, A.M. Garay-Tapia, F.J. Rodríguez-Varela and I.L. Alonso-Lemus Sway: https://sway.office.com/VgaBZTRoaymf9xxa?ref=Link
D	416	*Evaluation of performance of Ni@Pt/BC (BC: biochar) core-shell nanocatalysts for the Oxygen Reduction and Oxygen Evolution Reactions in alkaline media* R. Chavez-Alcazar, I.L. Alonso-Lemus and F.J. Rodríguez-Varela Sway: https://sway.office.com/2nbOTIvjOP89pmUE?ref=Link
D	417	*Synthesis of Pt nanocatalysts supported on Biochar from garlic (Allium Sativum L.) wastes functionalized with copper organometallic compounds for the Hydrogen and Oxygen Evolution Reactions* A. Torres-Núñez, M.E. Sánchez-Castro, I.L. Alonso-Lemus and F.J. Rodríguez-Varela Sway: https://sway.office.com/DYPgxXnb7pdPvdeR?ref=Link
D	418	*Electrochemical properties of Ni-20Cr modified by mechanical alloying to be used as electrocatalyst for the hydrogen oxidation reaction in alkaline media* D. Antonio-Gordillo, A. Godínez-García, O. Alonso-Gonzalez, H. Ruiz-Luna Sway: https://sway.office.com/kvq6Le01DF6eelkN?ref=Link

D	419	*Electrochemical performance of carbon nanotube with misfit layered oxide $Ca_{2.9}Nd_{0.1}Co_4O_{9+\delta}$ for flexible supercapacitors* R. Pérez-Gonzalez, J. Oliva, S. Cherepanov, V. Rodriguez-Gonzalez, A.I. Mtz-Enriquez, A. Zakhidov, K.P. Padmasree Sway: https://sway.office.com/6StfOGcKUlIBHZvi
D	424	*Pt and Pt-Ag electrocatalysts supported on NTC for ethanol oxidation reaction in alkaline medium* Blanca Jessica Ortega Chagoyan, Adriana Medina Ramírez, José de Jesús Ramírez Minguela, Claudia Martínez Gómez, Beatriz Ruiz Camacho Sway:https://sway.office.com/sBpg2rl0Eh1KKhNh
D	425	*Effect of the addition of rare earth dopants in barium cerate-zirconate materials synthesized by mechanochemistry* Y.A. Yeverino-Martínez, K.P. Padmasree, J.C. Díaz-Guillén, A.F. Fuentes, B.L. Cruz-Sánchez, S.R. Arreazola-López, J.A. Díaz-Guillén Sway: https://sway.office.com/jFHWts6HGBbudPxQ?ref=Link
D	426	*Materials for solid electrolytes based on barium cerates-zirconates, synthesis and characterization* S.R. Arreazola-López, K.P. Padmasree, J.C. Díaz-Guillén, A.F. Fuentes, B.L. Cruz-Sánchez, Y.A. Yeverino-Martínez, J.A. Díaz-Guillén Sway: https://sway.office.com/YdGJ0n6iEzoEQqHB?ref=Link
Topic		**Fuel Cells Components & Stacks (Modeling & Design, Control and Power Conditioning)**
Bluejeans session		
Block	**Work ID**	
E	201	*Mechanochemical synthesis of samarium cerates-zirconates and their characterization for SOFC application* K.A. González-García, J.A. Díaz-Guillén, S. Martínez-Montemayor, J.C. Díaz-Guillén, O. Burciaga-Díaz, M.E. Bazaldúa-Medellín, M.U. Flores-Guerrero Sway: https://sway.office.com/snRyG13wc1jx33JQ?ref=Link
E	204	*CFD Simulation a PEM fuel cell* R. Ortega-Pérez, J.M. Sierra, D. Pacheco-Catalán, L.C. Ordoñez Sway: https://sway.office.com/mKKrXubrY2VB3Vrw?ref=Link
E	205	*Effect of sulfonating agent in the properties of copolymers based in styrene for PEMFC membranes* L. Francisco-Vieira, L. Da Silva, E. Cuara-Díaz, R. Benavides, D. Morales-Acosta Sway: https://sway.office.com/UNTkuoLJ0Rxc9D7G?ref=Link

E	206	*Numerical simulation of PEM Fuel Cell: Theoretical study of mass transport phenomena for an effective diffusion* J. Ceballos, L. Ordóñez, J. Sierra Sway:https://sway.office.com/17UWoLP4AEAKwbCZ?ref=Link
E	207	*Improvement of energy quality in a distribution network through fuel cells* Gladis Guadalupe Suarez Velázquez, Manuel Benjamín Ortiz Moctezuma, María Guadalupe Burgos Quiroz Sway: https://sway.office.com/UcTv1CZqTEkROKDP?ref=Link
E	212	*Performance of an alkaline electrolyzer with modified electrodes with nickel deposits* establishing a characterization protocol A. Moreno López, J. Manuel Sandoval, R. G. González Huerta Sway: https://sway.office.com/xuX1veByut5kGSY2?ref=Link
E	214	*Study of the integration of a PEMFC stack as a drive-range extender in a Fuel cell hybrid* electric vehicle J.L. Díaz-Bernabé, A. Rodríguez-Castellanos, S. Citalán-Cigarroa, O. Solorza-Feria Sway: https://sway.office.com/k411ADFTmU0jAqw9?ref=email
E	216	*Influence of electrical connections in microbial fuel cells with living plants* H.A. Rivera-Labrada, M.G. Salinas-Juárez Sway: https://sway.office.com/Me618ULxkZJg9Ll1?ref=email
Topic		**Renewable Energy Systems**
Bluejeans		
Block	**Work ID**	
F	301	*Production of biokerosene through Mo2C-Ni2Mo3N nanocomposites by hydrothermal liquefaction of woody chips* J.J. Malpica-Maldonado, A. L. Martínez-Salazar, J.A. Melo-Banda, B. Portales-Martínez, L. Aguilera -Vázquez1, Y. Salazar-Cerda Sway: https://sway.office.com/ENTDXt3PKdxS3tDf?ref=email
F	305	*Use microbial fuel cell for energy production from wastewater from a food supply industry* Kimberly Elizabeth Castañeda Martínez, Miguel Mauricio Aguilera Flores, Verónica Ávila Vázquez Sway: https://sway.office.com/NkuXoB6BSRnHAywk?ref=Link
F	306	*Microgrid System for distributed buildings with hydrogen backup* Cristian Anzures, Víctor M. Sánchez, Guillermo Becerra, Romeli Barbosa, Juan C. Ávila Sway: https://sway.office.com/SGU1JamWF8vVQ7cZ?ref=Link

F	309	*A review of the viability of green hydrogen production from wind and marine energies* Malinalli Pérez-Vigueras, Rogelio Sotelo-Boyas, Rosa de Guadalupe González-Huerta Sway: https://sway.office.com/EVtoB7qBEXGVGq9L?ref=Link
Topic		**Regulation (Policies, Market, Codes, Environmental aspects)**
F	500	*Sustainable energy transition with the use of hydrogen: a look at the political and legal challenges in Mexico in the post-pandemic period* María Liliana Ávalos Rodríguez, José Juan Alvarado Flores, Jorge Víctor Alcaraz Vera Sway: https://sway.office.com/OJ6qDBxzXA7NwMnw?ref=Link
F	501	*Sustainability analysis of hydrogen production by alkaline electrolysis using life cycle analysis (a review)* A. I. Muñoz Cora, C. A. Cortes Escobedo Sway: https://sway.office.com/IjTALNXc9fqcpZmh?ref=Link
F	307	*Influence of Hydrogen Energy Storage in Marine Renewable Systems* Jorge Olmedo-González, Guadalupe Ramos-Sánchez, Rosa de Guadalupe González-Huerta Sway: https://sway.office.com/lQo0WxpKkwpH1XN3?ref=Link
F	302	*Heavy metal removal efficiency by microorganisms, electrochemical process, and pH change inside a bioelectrochemical system treating acid mine drainage* L.S. Vélez-Pérez, K. Juárez-López, O. Talavera-Mendoza, J.A. López-Díaz, Y. Romero-Ramírez, G. Hernández-Flores Sway:

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