

**2022 AIChE Spring Meeting & GCPS Poster Session***Monday, April 11, 2022 5:00 PM - 7:00 PM**Exhibit Hall 4B, Henry B. Gonzalez Convention Center***# 54 -Emerging Technologies in Clean Energy**

BOARD NUMBER	Title	First Name	Last Name	Paper Number
1	Hydrogen Plasma Reduction of REOs/Salt for Rems Production	Maoqi	Feng	54a

**# 55 - Poster Session: Fuels and Petrochemicals Division**

BOARD NUMBER	Title	First Name	Last Name	Paper Number
2	Study of Surfactant/Nanoparticles Formulations in Rock/Fluid Interaction for Enhanced Recovery of a Colombian Heavy Crude Oil	Michell A.	Jimenez	55a
3	Analysis of Catalytic Aquathermolysis on the Physicochemical Properties and Maltenes-Asphaltenes in Colombian Heavy Crude Oils By Using 1H-NMR	Adan Y.	León	55b
4	Application of Liquid Products from Polystyrene Conversion As Pour Point Depressants in a Colombian Paraffinic Crude Oil	Emiliano	Ariza	55c
5	Effect of Initial Water Saturation on Carbonate Rock Wettability: A Contact Angle Study	Xiao	Deng	55d
6	Influence of Permeability on the Relative Contribution of Wettability Alteration and IFT Reduction in Oil Recovery	Muhammad Shahzad	Kamal	55e
7	Development of Magnetic Surfactants for Oilfield Applications	Syed	Hussain	55f
8	New Crude Oil Viscosity Models for Burgan Oilfield	Adel	Elsharkawy	55g
9	CO <sub>2</sub> Dissociation over Ni Supported on Doped Ceria Catalysts	Phillip	Mynarski	55h
10	Efficient Degradation of Naphthalene Using Hydrazine Assisted Nano-Iron Peracetic Acid Process	Muhammad	Danish	55i
11	Copper Oxide and Sodium Percarbonate System Supported with Iron Nanoparticles for the Simultaneous Degradation of Trichloroethane and Hexavalent Chromium	Muhammad	Danish	55j
12	CO <sub>2</sub> Capture and Conversion to Methanol over a Copper Based Dual Functional Material	Abdelbaki	Benamor	55k
13	Separation of Olefin-Paraffin Mixtures with Optiperm™ customized Amorphous Fluoropolymer Membranes	William	Charlton	55l
14	Research on the Influence of Wax, Resins and Asphaltenes on Wall Sticking of Shale Oil	Huirong	Huang	55o
15	Electrocoalescence of Water-Oil Mixtures Induced By Corona Discharge	Amir	Dehghanhadikolaei	55p

**# 56 - Poster Session: Hydrogen Safety**

BOARD NUMBER	Title	First Name	Last Name	Paper Number
--------------	-------	------------	-----------	--------------

16	1. Properties of H2 .2.H2 Safety 4. MOC Consideration for H2service.5. Hydrogen Embrittlement 6. High Temperature Hydrogen Attack.7. H2 Accidents 8. Lesson Learned.	Prakash	Bhosale	56a
<b># 57 - Poster Session: Industrial Wastewater Management and Water Reuse Topical Conference</b>				
BOARD NUMBER	Title	First Name	Last Name	Paper Number
17	Mill Reliability Case Study: T- 37FS Upgrade Benefits Pulp and Paper Mill By Significantly Reducing Mtbr (mean time between repairs) 70% for Mission-Critical Agitator.	Pearley	LaChance	57a
<b># 58 - Poster Session: Industry 4.0, Analytics &amp; AI</b>				
BOARD NUMBER	Title	First Name	Last Name	Paper Number
18	A Worker Safety Management System Based on Worker Location and Environmental Information during Tunnel Construction	Sohyun	Park	58a
19	Fixing AI's Identity Crisis in the Industrial Space	Forogh	Askari	58b
20	Placeholder for Nnaisense Presentation	Faustino	Gomez	58d
21	Using Avert Physical Security (AVERT-PS) to Optimize Physical Security Effectiveness at Mission Critical Facilities	Jim	Raines	58e
22	Csim – the Next Generation of Situation Management	Jim	Raines	53o
23	Three Challenging Applications of Quantifying Critical Characteristics with Machine Vision	Marlene	Cardin	58f
<b># 59 - Poster Session: Process Development Division</b>				
BOARD NUMBER	Title	First Name	Last Name	Paper Number
24	Waste Plastics to Cleaner Fuels: Technical and Economic Assessment	Usama	Ahmed	59a
<b># 60 - Poster Session: Process Intensification</b>				
BOARD NUMBER	Title	First Name	Last Name	Paper Number
25	Modeling Aqueous Solutions of Rare Earth Elements (REE) Salts with Association Electrolyte Nonrandom Two-Liquid Activity Coefficient Model	Shikha	Bhaiya	60a
<b># 61 - Poster Session: Separations Division</b>				
BOARD NUMBER	Title	First Name	Last Name	Paper Number
26	Chiral Purification of 2-Phenylpropionic Acid from the Enantiomersby a New Technique Combining Melt Crystallization and Distillation	Lie-Ding	Shiau	61a
27	Adsorption: A New Look at an Old Unit Operation	Jacob	Arredondo	61b
<b># 227 - IDEAL Poster Session</b>				
BOARD NUMBER	Title	First Name	Last Name	Paper Number
28	AIChE Fellows, Who we are and What we Do?	Lori	McDowell	227a
29	AIChE's Women in Chemical Engineering Community	Nehal	Abu-Lail	227b

30	LGBTQ+ and Allies, An AIChE Community	Anthony	Butterfield	227c
31	AIChE's Disabilities Outreach and Inclusion Community (DORIC)	Amanda	Scalza	227d
<b># 52 - GCPS - Process Safety Poster Session</b>				
BOARD NUMBER	Title	First Name	Last Name	Paper Number
32	Diagnose and Resolved Design Issues and Overcome Surge Problems in Complex Fire Water Network	Muhammad Farooq	Fareed	52a
33	Enhance and Ensure the Probability of Failure Demand of Multiple Relief Devices by Different Approaches and Design Tools	Muhammad Farooq	Fareed	52c
34	Another Voice in the Room - How to Leverage Computational Knowledge Graph Technology in Risk Assessments	Theresa	Broussard	52b
35	Analysis of Hayes Lemmerz Dust Explosions and Fire CSB Report	Anthony	Shirazi	52d
36	Formosa Plastics Vinyl Chloride Explosion	Katelyn	Murhammer	52e
37	Analysis of Ndk Crystal Inc. Explosion with Offsite Fatality--a Chemical Safety Board Report	Nina	Laskowiecki	52f
38	Modeling Fires with Computational Tools. a Great Power without Responsibilities?	Omar	Contramaestre	52g
39	Investigating the Thermal Characteristics of Lithium-Ion Battery from Safety Perspective Using the Electrochemical Thermal Model	Sankhadeep	Sarkar	52h
40	Atmospheric Discharge Screening for Hydrogen-Rich Streams from Pressure Relief Valves	Thuc	Ngo	52i
41	An Enhanced Dynamic Ignition Model and CFD Response Curve for Probabilistic Explosion Analysis	Pamella	Palmeira de Araújo	52j
42	A General Framework for Resilience Assessment of Process Systems	Bhushan	Pawar	52k
43	Lessons Learned in the Development of Operating Procedures in a New Refinery in Peru	Dante R.	Ramirez	52l
44	Safety Optimization of the Spatial Configuration of Buildings in Refineries Using QRA	Dimosthenis	Sarigiannis	52m
45	Breaking the Paradigm: The Mindset Changes of PSM the Ally & Asset, Not the "Necessary Evil"	German A.	Luna-Mejias	52n
46	Blending Safety Barrier Concepts into More Contemporary Process Safety Management System	Ahmed	Nagib	52o
47	Technique to Perform Petrochemical Complex-Wide Inadvertent Chemicals Mixing and Reactivity Study	Abdullah	AlMulla	52p
48	Barrier Management Using Bowtie Based Readiness Reviews for Critical Task Analysis	Tenny	Thomas	52q
49	The Full-Cycle Evolution Mechanism of Security Accidents in Petrochemical Plants Based on Biological Immune Theory	Mingxin	Dong	52r
50	Business Case for PHA of Procedures (to find the accident scenarios that are otherwise missed)	William	Bridges	52s
51	Using IE and IPL Failure Rates to Establish Initial Inspection Intervals, and Maximum Out of Service Time, and Deferral Time Limits for Critical Process Safety Features	William	Bridges	52bb

52	The Impact of the Tolerable Event Frequency Used during a Layer of Protection Analysis	Erik	Sherwin	52t
53	Pssr...the Nearly Forgotten and Misunderstood Element	Mike	Bearrow	52v
54	The Mihazop Method: Get the Most of Your Process Hazard Analysis and Mechanical Integrity Strategies Combined	German	Luna Mejias	52w
55	Controlling and Understanding Sensitized Ammonium Nitrate Hazards in Semiconductor Facility Ductwork	Parameswara	Subramanian	52x
56	Development of a First-of-a-Kind Risk Based Process Safety Program in the Semiconductor Industry	Parameswara	Subramanian	52aa
57	Knowledge Base Design and Machine Learning for a Voice-Activated AI System Supporting Foreign Workers' Occupational Safety Learning and Safety Knowledge Acquisition	Dongil	Shin	52z
58	Buyer Beware – Purchasing a Chemical or Gas Processing Facility – Lessons Learned	David	Rosenthal	52ab
59	H-2 Occupancy?! Addressing Combustible Dust Challenges Related to Fire and Building Code Occupancy	Timothy	Heneks	52ad
60	Effect of Radiative Heat Transfer on the Consequences of Gas Cloud Explosions	Franz	Zdravistch	52ae
61	Effective & Robust Emergency Response Plan	Ghulam	Abbas	52ag
62	Building Better Bow Ties	Paul	McCulloch	52ah
63	Conducting a Large Scale Mock Drill & Implementing Its Learning..a Success Story	Hamza	Hameed	52ai
64	Building a Risk-Conscious Organization through Creative and Inclusive Competency Development in Process Safety Management	Ramesh Ramalingam	K	52aj
65	A Structured Gap Assessment, Intervention & Handholding Approach for Effective PSM Implementation	Senthilraja	Mani	52ak
66	Dynamic Risk Assessments with Real-Time Data: The Connected Worker and Their Ability to Prevent Events and Mitigate Consequences in Process Safety	Jim	Petrusich	52al
67	<i>Best Practices to Maintain Integrity of Safety Critical Equipment during Operations</i>	Raminaidu	Girada	52an
68	Control of Fugitive Vent Gas Dispersion in Paper Industries.	Nagarajan	Ramachandran	52ao
69	An Engineered Approach for Developing the Fire and Gas Layouts By Application of 3-Dimensional Fire and Gas Mapping Study to Improve the Effectiveness of the Detection System	Nagarajan	Ramachandran	53n
70	Begin with the End - Real-Time-Verification-of-Safeguards - in Mind	Tony	Downes	52ar
71	Hazops Have to Evolve to Survive in the Digital World	Tony	Downes	53h
72	Experimental Evaluation of Electrostatic Discharge in Multi-Phase Hydrocarbon Flows	Timothy L.	Morse	52as
73	Establishing a Visible Process Safety Culture at Every Level Combating Cultural Barriers	Sabeeh	Ahmed	52at
74	PSM Risk Taxonomy - Fundamentals of Integrating PSM Methods and Processes	Alwin	Van Aggelen	52au
75	Transforming a Major Hazard Management System into a Digital Model: A Case Study Presentation and a Scientific Questioning Around Human Factor Issues	Emmanuel	Plot	52av

76	Strengthening Regulatory Oversight of Declining Safety Performance	Fidel	Perez	52aw
77	Setting up Process Safety Management Program for Non-Regulated Businesses in India	Monica	Prasad	52ax
78	Implementing Life Critical Standards and Training to Enhance Process Safety in Remote Location	Jennifer	Bracey	52ay
79	Paradigm Shift from Conventional Compliance Based Process Safety to Quality and Risk Based Process Safety.	Noman	Irshad	52az
80	Transformation to Risk Based KPIs for Effective Process Safety Management	Sheikh	Ahmad	52ba
81	Ecolab Process Safety Qualification Process: Executive Summary	Nathan	Thompson	52bc
82	PYROPHORIC METAL DUSTS: SECONDARY EXPLOSION HAZARDS	Richard	Prugh	52bd
83	Process Safety Considerations in Renewable Diesel Conversions	Robert	Foley	52be
84	Overpressure Protection in Sulfur Recovery Unit (SRU)	Guomin	Wang	52bf
85	Safety Culture Continuous Monitoring Approach	Mark	Jean	53e
86	From Student to Expert: How to Utilize Your Internal Engineering Standards Program to Train the Next Generation	Maria	Rennillo	53f
87	Case Study of Leadership and Process Safety Culture   a Blended Experience to Think the Future - How to Lead Discipline-Oriented Cultures, in Scenarios of Growing Virtuality	Martin	Fernandez	53g
88	Integrated Quantitative Risk Assessment for Natural Gas Transmission Networks	Dimosthenis	Sarigiannis	53k
89	Manufacturing of High-Performance Intumescent Flame-Retarded Polymer Composites	Yufeng	Quan	53m
90	Risk Based Process Safety in the Semiconductor Industry - Lessons Learned from Pratical Application of the CCPS Rbps 20 Elements in Semiconductor Fabrication Facilities	Steve	Hawkins	53p
91	Taking the Burn out - Material Selection Considerations for Pfp (Passive Fire Protection) As It Relates to PHA	Doug	Sinitiere	53u
92	Safety in Design Is Key to Success for Safe and Reliable Operation of Any Process Facility.	Muhammad	Haider	53v
93	Reducing Risk of Process Equipment Internal Inspections Utilizing Latest Technologies	Russ	Davis	53x
94	Don't Waste That Data: Practical Ways to Model Risk and Improve Frontline Decision-Making	Timothy	Floyd	53aa
95	Reckless Operation and Maintenance in the Process Industry: Causes and Prevention Guidelines a Study of 100 Significant Process Safety Incidents.	Mohamed Osman	Al Hashimi	53ac
96	Investigating the Root Causes of the 2007 Xcel Energy Hydroelectric Plant Penstock Fire	Jared	Parr	53ad
97	A Case Study on LPG Transportation Accident: Boing Liquid Expanding Vapor Explosion (BLEVE) and Large Vapor Cloud Explosion (LVCE)	Edward	Liu	53ae