2022

CHEMICAL ENGINEERING DEPARTMENT NEWSLETTER

Activities

Congratulation on Achievement

Articles

Activities

Abhathy – My Gateway To Research.

The research day is a showcase of ongoing research activities and targeted student body of the Department of Chemical Engineering including both undergraduate and graduate levels.

The Department of Chemical Engineering at Qatar University organized the 5th annual student research event called " أبحاثي – My Gateway to Research" which was held on Wednesday, March 23rd, 2022 at Qatar University Research Complex. The research day is a showcase of ongoing research activities and targeted student body of the Department of Chemical Engineering including both undergraduate and graduate levels.

In her remarks, Dr. Majeda Khraisheh, the Head of the Department of Chemical Engineering highlighted the continuous improvement in the department's ranking over the past few years, and how it has become one of the most favoured choice in the region.

Dr. Khraisheh also emphasised that having such gatherings encourages our students to get involved in research and actively participate in creating a research culture among CHE students. Such events support the research progress at the department further and contribute to open new channels of collaborations with industry and academia, and help develop students' skills in research under the supervision of department faculty members and industry experts.

This year event included poster presentations and video competition. The graduate and undergraduate students participating in this year event were competing for different categories such as best video, undergraduate research,

A total of more than 40 posters were included in the competition. In addition, faculty research profiles were also displayed for visitors and prospective researchers, which included faculty members from the Department of Chemical Engineering and affiliated members from Gas Processing Center (GPC) and Center for Advanced Materials

The event concluded with the announcement of awards for Abhathy competition winners.

For more detail on our social media; Click here

Congratulation on Achievement

Prof. Fadwa Eljack celebrates her promotion to the rank of full professor.

Prof. Fadwa Eljack celebrates her promotion to the rank of full professor. Prof. Eljack had a party at the Department of Chemical Engineering and invited friends from the department and the College of Engineering at Qatar University.

For more detail on our social media; Click here

Congratulation on Achievement

Chemical Engineering Student in the Students' Representative Board

In recognition of the significant role of responsible students' participation in the achievement of the University's educative purposes, Qatar University established The Students' Representative Board. This board will serve and act in the interest of the QU community in general and of all students in particular. Moreover, to conform to the letter and spirit of the rules and regulations of QU and the Laws of the State of Qatar. In addition, to maintain and promote quality education and academic excellence. Last but not least it promotes QU's vision and mission.

Duties

- Raise student cases to the Deanship of the College and its departments and propose practical solutions
- To be a link between the college administration and college students.
- Participate with the college administration in developing the academic and non-academic aspects of the college in accordance with the procedures and policies followed and through official channels.
- Allocate a special budget for the Student Representative Council to run each college based on a plan prepared by the Council and approved by the Dean of the College during the specified time period.

The president's word:

Education is a humanitarian and social process whose primary goal is to build a good, effective, productive human beings who believes in their role in building the society and the country, and who contribute to spreading goodness and justice in this world. We believe that education is a great and shared responsibility that rests upon all of us and is the supreme path to success, and that sustainable development lies in preparing students who are armed with science, life skills and volunteer experiences, who are flexible, passionate, and creative. This is the real investment for the country, and this is what our wise leadership aspires to, which is included in Qatar Vision 2030. Therefore, in my capacity as the head of the Student Representative Council of the College of Engineering, I took the responsibility of contributing to the creation of the university learning environment and making it a productive and supportive learning environment for our students to embrace everything that is new and stimulating creativity, inspiring our students, and encouraging them to develop themselves and their skills to achieve their goals. I aspire to be the link that links the students at the College of Engineering with its administration and departments and contribute to promoting the achievement of these goals with high quality. I seek to prepare and support my fellow students at the College of Engineering in general, and students of chemical engineering in particular, with all possible means to experience participating in various activities and student clubs that polish the personality and makes the students ready for the labor market and have sufficient ability to deal with the requirements of the modern era and achieve success and excellence in advanced ways. May Allah grant us all success.

Activities

Prof. Majeda Khraisheh delivered a talk on "Green Hydrogen"

Professor Majeda Khraisheh, the Head of the Department of Chemical Engineering at Qatar University, delivered a talk on "Green Hydrogen in the Energy Mix as an Enabler to Energy Transition." speech was a part of activities of The Seventh General Conference of the Arab Union of Electricity "Accelerating Change from Smart Cities to Smart Societies: Technology, Economy, Policy, and Society"

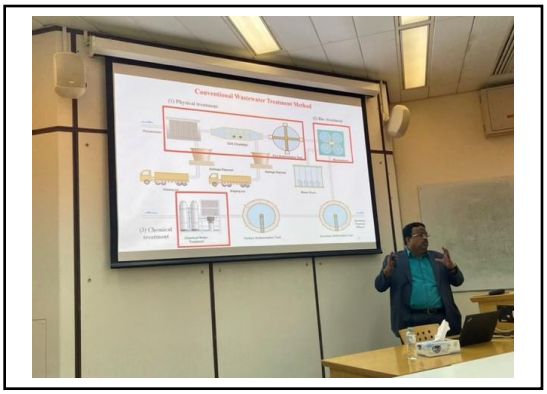
For more detail on our social media; [Click here]

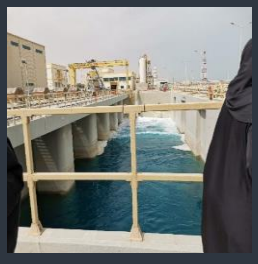
Activities

Department of Chemical Engineering & Gas Processing Center held a seminar on Modified 2D Nanostructured materials

Department of Chemical Engineering & Gas Processing Center held a seminar on Modified 2D Nanostructured materials for Environmental Remediation by Dr. Rengaraj Selvaraj., Ph.D., FRSC.

For more detail on our social media; Click here





Activities

Chemical Engineering Undergraduate visit to Umm Al Houl Power.

Nineteen senior students accompanied by their academic advisor (Dr. Zeinab Jawad) visited Umm Al Houl Power (UHP) on Thursday (8th March 2022).

UHP's professional staff first briefed the students on the plant and the safety before taking them on a trip around the plant, exposing them to the industrial environment.

UHP's staff highlighted that this project is successfully supplying 136.5 MIGD water and 2520 MW power which are equivalent to 40% and 30% of Qatar's needs, respectively.

The students had a good engagement on the discussion and tour relating to producing power from turbines and the new design of the Reverse Osmosis section.

For more detail on our social media; Click here

This unique unit is mainly operating on recycling the used water of the plant instead of using fresh seawater to produce clean water and power. By doing this, UHP is currently ranked the highest producer of water and energy in the Middle East.

Congratulation on Achievement

CHEMICAL faculty are listed as top 2% of the world's most-cited scientists during 2020

faculty members of the Department of Chemical Engineering Professor Dr. Bassim H. Hameed, Prof. Majeda Khraisheh, Prof. Fares Al Momani, Prof. Shaheen A. Al-Muhtaseb, Prof. Ramazan Khahraman, Dr. Rahul Bhosale, and Dr. Anand Kumar for being featured by Stanford University (USA) in the list of the top 2% of the world's most-cited scientists during 2020, and the list of the top 2% of the most-cited scientists during their full academic journey.

According to the Scopus database, the lists included more than 100,000 researchers worldwide until August 1, 2021. ***For more detail on our social media; Click here***

Congratulation on Achievement

Al-Dana Al Yafei wins the Scientific Excellence Award

The Department of Chemical Engineering congratulates Al-Dana Ali Hammoud Al Yahri Al Yafei for winning the Scientific Excellence Award (Session 15-2022).

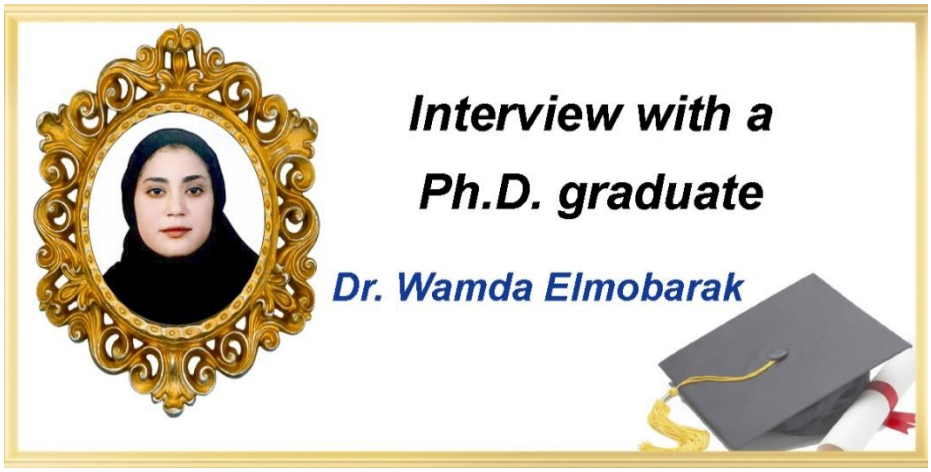
For more detail on our social media; Click here

Congratulation on Achievement

PhD candidate and team win the second Place Award in the Arab IoT & AI Qatar

The Department of Chemical Engineering congratulates our PhD candidate, Haneen Abdelrazeq, and her team on receiving the second Place Award in the Arab IoT & AI Qatar local challenge. Wishing her continued success in achieving great accomplishments!

Article



Would you please introduce yourself to the academic community?

I am Wamda Faisal, a chemical engineer who recently received a Ph.D. from Qatar University. Since 2017 I have worked as a research assistant in the chemical engineering labs QU. In 2016 I worked as a production engineer in a petroleum company in Sudan. I got my master's degree in chemical engineering from Khartoum university Sudan in 2015 and my bachelor's degree in 2013 from the same university. My research working area is "nanoparticles and polymers modifications - Nanoparticles and polymers applications in oil and gas industries- Produced water treatment."

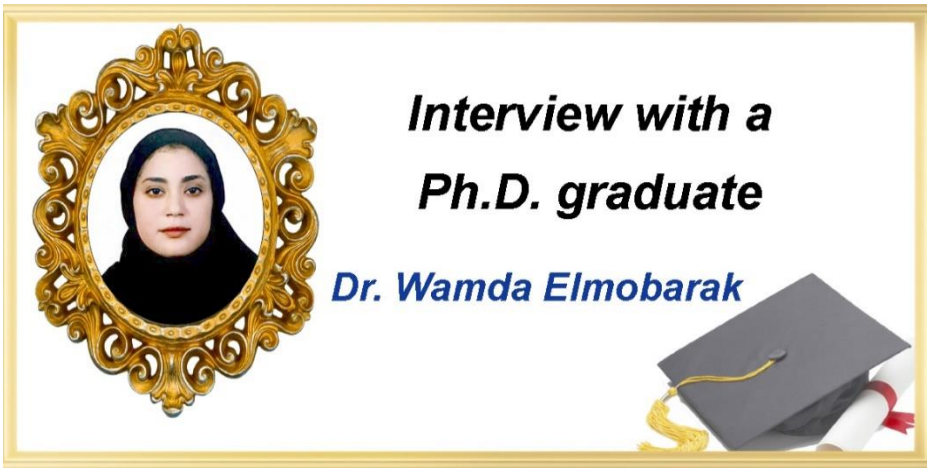
You recently received a Ph.D. on "Development of Different demulsifiers to enhance the oil recovery process from oil in water emulsion"; Would you please elaborate on this topic?

My dissertation title is "Development of Different demulsifiers to enhance the oil recovery process from oil in water emulsion." The study aimed to apply different chemical demulsifiers includes polymers, magnetic nanoparticles, coated nanoparticles, functionalized polymer-magnetic nanoparticles, and ILs by using magnetic separation technology to remove the oil from produced oil in water emulsion.

Would you please insight on the achievement of this study?

- A critical review of the development and demulsification processes applied for oil recovery from oil in water emulsions
- Utilizing environmentally friendly hyperbranched polyglycerol polymers to separate gasoline from deionized water
- Application of magnetic nanoparticles for the removal of oil from oil-in-water emulsion: Regeneration/reuse of spent particles.
- .Application of Fe_3O_4 magnetite nanoparticles grafted in silica (SiO_2) for oil recovery from oil in water emulsions
- Functionalization of silica-coated magnetic nanoparticles as powerful demulsifier to recover oil from oil-in water emulsion
- Enhanced oil recovery using hyperbranched polyglycerol polymer-coated silica nanoparticles
- A new insight into the separation of oil from oil/water emulsion by Fe_3O_4 -SiO_2 nanoparticles using a glass micromodel
- Experimental Investigation of Fe_3O_4 -SiO_2 magnetic nanoparticles performance in the demulsification of oil/water emulsions using glass micro model
- Preparation and characterization of Fe_3O_4 nanoparticles and their application in produced water treatment and oil recovery
- Investigational study for the efficiency of Fe_3O_4 -SiO_2 nanoparticles in the oil recovery process using glass micro model
- Evaluation of the efficiency of the ionic liquids in the demulsification of oil-in-water emulsions

Article



How does Qatar University create an environment conducive to research and graduate studies?

- A research environment is mainly based on best practices and support for the development of researchers. Qatar University creates a good atmosphere by different means includes:
- Clear policies, practices, and procedures to support the researchers.
- Cooperative learning, training, mentoring opportunities to support researchers.
- Robust management systems to guarantee the implementation of the policies related to research.
- Awareness amongst researchers of standards and behaviors expected of them.
- Systems that identify potential concerns early and mechanisms for providing support.

How do we build the minds of our young people to develop a passion for research innovation and inventions?

By providing techniques that help young people develop as individuals, grow in confidence and nurture essential skills, tools, and knowledge for life and its potential barriers. Furthermore, by encouraging the students to learn several different thinking skills that they can use to manage the challenging situations they face during their research. Also, we support them to use their thinking skills to become more self-aware and have self-belief in their abilities.

What obstacles and difficulties may stand in front of the scientific researcher?

From my point of view, these two points are the major obstacles that can meet the scientific researcher:

The lack of skill in analyzing and interpreting the results was one of the obstacles to research in the majority of the researcher.

Some personal problems like time and stress management.

From your point of view, what is the importance of scientific research for the development of societies?

Scientific research brings observations, knowledge, and data to solve problems, invent solutions and develop new products. Applied research allows individuals, industries, and countries to test information by transforming abstract theories into practical learning.

What are the research goals that you seek to achieve?

The ultimate goal of any researcher is to keep discovering new ideas which should add value to the literature. So for me, Inshallah, I will keep working in the demulsification area and expand my work to apply all these developed demulsifiers on a large scale in the oil industries.

For more detail on our social media; Click here

Article

Why Studying Chemical Engineering at Qatar University?

What do chemical engineers do?

Chemical engineers are responsible for designing and operating industrial facilities, which must be sustainable and address the global water, food, and energy security challenges.

In addition, chemical engineers develop and invent materials based on consumer needs—new products such as biodegradable polymers, pharmaceuticals, and artificial hearts. Chemical Engineers address challenges facing industry and society; they invent methods to reduce carbon dioxide and toxic gas emissions. They design and retrofit systems/equipment to produce high-grade gasoline, new fuel additives, and environmentally friendly products

The innovations and continual improvements made by chemical engineers touch every aspect of our daily life, including the development of new medicines, the food industry, freshwater, petroleum product, and high-performance material.

The job market is vast in chemical engineering and includes careers in various cross-disciplinary industries and research and development. Chemical engineers need to understand how such transformations happen at both the molecular and industrial scales and achieve safe economic production environmentally friendly.

The Department of Chemical Engineering at Qatar University provides its students with a high-quality education in basic sciences and engineering principles; that prepares competent, professional, and socially responsible engineers who will contribute to their country's economy and well-being.

Are you ready for the challenge? Welcome on board!

Our Program:

Chemical Engineering at Qatar University is an accredited program through ABET Engineering Commission. The program features a unique capstone design sequence that introduces students to real-world industrial design projects. Our degree in Chemical Engineering prepares its graduates to meet the challenges of the petrochemical, desalination, energy, waste management, oil, and chemical industries. Our Chemical Engineering courses will equip students with the knowledge base and expertise needed to make informed technical and scientific decisions in the future. The program offers students a substantial selection of technical electives that heavily focus on Gas & Oil Processing.

Importance of Chemical Engineering Career for the State of Qatar:

Qatar is a global provider of energy and petrochemical products thanks to its vast hydrocarbon resources, including the world's third largest natural gas reserve. Its economy is based primarily on hydrocarbon processing, making it a leading nation in producing a variety of clean fuels like LNG, GTL, and a broad spectrum of petrochemical products and their derivatives.

These industries rely heavily on chemical engineers for plant design, operations, and developing the country's industrial supply chain.

Chemical engineers are needed in desalination, power generation, and environmental solutions, including environmental regulations and policies.

What after you graduate from QU?

Chemical Engineering is one of the most challenging and rewarding careers you can choose. The chemical industry is one of the major driving forces of our nation's economy. Within the Chemical Engineering profession, there are many well-paid career opportunities. Graduates might work as field engineers, be part of research teams, or occupy senior management positions. Chemical engineers can also easily secure jobs outside the discipline because of their broad range of skills. An undergraduate graduate chemical engineering degree opens up ample opportunity for the engineer to pursue graduate studies in cross engineering and non-engineering disciplines, including environmental engineering, engineering management, (MBA), and many others.

Congratulation on Achievement

Professor Dr. Bassim H. Hameed is the Highly Cited Researcher for 2021 in Engineering by Clarivate and the Director to the Office of Research Planning and Development.

Professor Dr. Bassim H. Hameed has been named a Highly Cited Researcher for 2021 in Engineering according to the list released by Clarivate.

Warmest congratulations to Prof. Dr. Bassim Hameed on this recognition for the 8th consecutive year (2014-2021).

This is in recognition of exceptional research performance demonstrated by production of multiple highly cited papers that rank in the top 1% for the field and year in Engineering.

According to Clarivate, the 2021 list contains about 6,600 Highly Cited Researchers in 21 fields of the sciences and social sciences, including 169 scientists in the Engineering field. Prof. Dr. Bassim is one of the 169 scientists in Engineering.

Prof Bassim is appointed as director to the office of research planning and development since 23rd May 2022.

Congratulation on Achievement

USA patent published on novel applications of Deep Eutectic Solvents (DES) in separating stable emulsions.

Prof Hazim Qiblawey, his student Dana Al-Risheq, Prof Mustafa Nasser Prof Abdelbaki Benamor, and Prof Ibnelwaleed Hussein from Gas Processing Center for getting their USA patent published on novel applications of Deep Eutectic Solvents (DES) in separating stable emulsions.

For more detail on our social media; Click here

US011136249B1

United States Patent
Al-Risheq et al.

(10) **Patent No.: US 11,136,249 B1**
(45) **Date of Patent: Oct. 5, 2021**

DESTABILIZATION AND SEPARATION OF HIGH STABLE COLLOIDS

Applicant: **QATAR UNIVERSITY**, Doha (QA)

Inventors: **Dana Izzat Al-Risheq**, Doha (QA); **Mustafa Nasser**, Doha (QA); **Hazim Qiblawey**, Doha (QA); **Abdelbaki Benamor**, Doha (QA); **Ibnelwaleed Ali Hussein**, Doha (QA)

Assignee: **QATAR UNIVERSITY**, Doha (QA)

(56) **References Cited**

U.S. PATENT DOCUMENTS

9,790,421	B2	10/2017	Song et al.
9,957,459	B2	5/2018	Patil et al.
2011/0207633	A1	8/2011	Miller
2014/0194289	A1	7/2014	Sclapari et al.
2014/0305650	A1	10/2014	Song et al.
2015/0021913	A1	7/2015	Song et al.

FOREIGN PATENT DOCUMENTS

CN	107488682	A	12/2017
CN	107497395	A	12/2017

CHEMICAL returns to the face-to-face meetings after COVID-19 Pandemic

The Department of Chemical Engineering returned to the face-to-face meetings that were virtual for a long time due to COVID-19 Pandemic. Everyone was eager to meet in person again. It was an excellent opportunity to see everyone after online meetings. It was also a perfect opportunity to welcome new faculty and esteemed Affiliated center faculty.

For more detail on our social media; Click here

Practical Training in Summer 2022

A total of 62 students from the department of chemical engineering were honored by CAPCO, QAFCO, Qatar Steel, Qatalum, Um Al-Houl, Schelumberger, Kahrama and Al-Fardan group . Students gained the necessary industrial skills through the internship, which satisfied its practical goal.

Sara Fakhro positively reflected her training experience by stating "QAPCO's Summer training program is one of the most educational programs that I've ever joint. Student's knowledge and respect for future career were raised, in addition to their understanding and awareness of several important global cases, such as recycling and sustainability. In students' perspective, the most important skill that all employee own is teamwork, where everyone cooperates very well and in a very high level of profession with their colleague, which results a very smooth way of controlling all the facility. This industrial experience gave me a new perspective on the importance of plastic production, in addition to the importance of safety, following rules, and protecting the environment."

Meanwhile, Mohammed Al-suwaidi reflected his experience by stating "The internalship at QAFCO was great learning experience. It demonstrated how the knowledge learned in class is applied practically. My knowledge of process safety and Introduction to chemical engineering was very useful and helped me to achieve the maximum tasks that were required from me at QAFCO."

Further, Taher Al Otaibi commented on his experience at QAFCO"Commitment and discipline alone are part of many essential things that I learned as I had to get up unusually early every day knowing that the company was far from me in addition there is a specific time for food and a particular time for prayer, so for a month I lived a disciplined life that I was not used to before. I found the training opportunity essential to get to know many people apply many of the concepts I learned and review some of the concepts I forgot. Also, I was a shy person and preferred to work alone, but the work environment forced me to work with a team and hold a leadership position at times. I learned from the experience of teamwork how to divide the task and assemble it and communicate with other people of different mentalities. And in the end, we do not forget to thank the organizers for the success of the training in particular in the short time, which is one month, whether it was from the university, headed by Dr Majeda and Dr. Zainab or from the company, and in the forefront is the Eng. Kabir.)

Graduate Programms

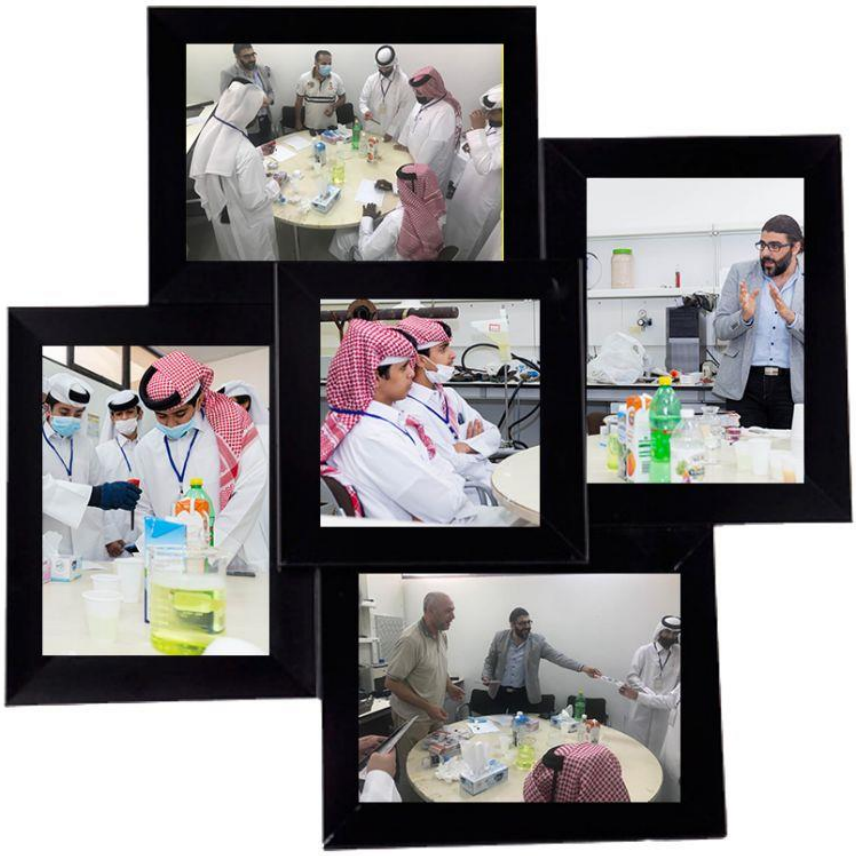
The department of Chemical engineering host graduate programs in Environmental Engineering and Gas Process Engineering. Both programs are research-intensive program, which offers a wide range of challenging and rewarding engineering experiences. The programs are designed to suit engineers and suitably qualified science graduates who are seeking a formal qualification that will equip them to work in and contribute to these fast developing fields. The Program aimed to meet both broad and highly specialized interests using the advanced special topics courses and applied or fundamental research to help in further preparing the students for employment in industrial sectors as well as those wishing to continue their education towards a doctoral degree. Up to 14 graduate students joined both programs in Fall 2022 and it is expected to have one Ph.D. and 9 MSC students defending their thesis this semester. The programs announced the opening of online admission applications for all programs for the spring 2023 semester, starting from Sunday, August 28 until September 29, 2022.

Chemical Engineering participated in Engineering Week

The Department of Chemical Engineering participated in Engineering Week held at Qatar University on 31 Oct-3 Nov 2021.

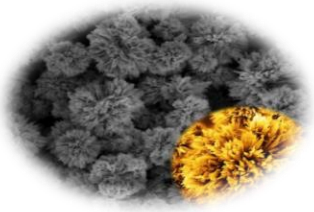
Engineering Week is an annual activity launched by the College of Engineering to simplify engineering sciences for students and introduce them to the various departments and programs of the college through some events aimed at introducing students to engineering and its programs.

For more detail on our social media; Click here



Dr. Anand Kumar's research team granted NPRP and wins second place in BRIO 2021 competition

Dr. Anand Kumar's research team for winning second place in BRIO 2021 competition. A total of eight research images were shortlisted for the fifth edition of the BRIO competition, where the winners were decided based on online voting. A total of 3000 people worldwide participated, and Dr. Anand's image received around 31% of the votes.



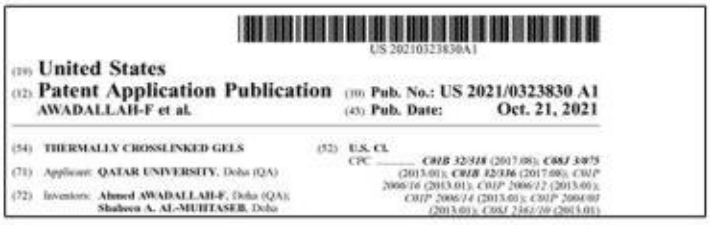
Dr Anand Kumar is successfully obtained NPRP grant entitled "Thermo-Neutral Tri-Reforming of Methane – Catalysis and Research Design" at total amount USD 623700 for the duration from 2022-2026.
Research Team:
Dr Anand Kumar, Qatar University (LPI)
Dr Mohammed J Al-Marri, Qatar University (PI)
Dr Eduardo E Wolf, University of Notre Dame, USA (PI)
Dr. Alexander S Mukasyan, University of Notre Dame, USA (PI)
Dr. Jeffery T Miller, Purdue University, USA (Consultant)
Dr. Gregory Herman, Oregon State University, USA (Consultant)
Dr. Líney Árnadóttir, Oregon State University, USA (Consultant)

Congratulation on Achievement

Prof. Shaheen Al Muhtaseb gets his research articles and patents granted and published

Prof. Shaheen Al Muhtaseb got his patents granted and published in the US and Europe. In addition, he got his articles published in the Journal of Natural Gas Science and Engineering.

For more detail on our social media; Click here



US 20210323830A1

(19) United States

(12) Patent Application Publication

AWADALLAH-F et al.

(10) Pub. No.: US 2021/0323830 A1

(43) Pub. Date: Oct. 21, 2021

(54) THERMALLY CROSSLINKED GELS

(71) Applicant: QATAR UNIVERSITY, Doha (QA)

(72) Inventors: Ahmed AWADALLAH-F, Doha (QA); Shaheen A. AL-MUHTASEB, Doha

(52) U.S. Cl.

CPC C01B 32/318 (2017.08); C08J 3/075 (2013.01); C01B 32/336 (2017.08); C01P 2006/16 (2013.01); C01P 2006/12 (2013.01); C01P 2006/14 (2013.01); C01P 2004/03 (2013.01); C08J 2361/20 (2013.01)

(19)

(11) EP 3 344 381 B1

(12) EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention of the grant of the patent: 24.03.2021 Bulletin 2021/12

(21) Application number: 16842933.0

(22) Date of filing: 31.08.2016

(51) Int Cl.: B01J 13/14 (2006.01) B01J 19/08 (2006.01) C08J 3/28 (2006.01)

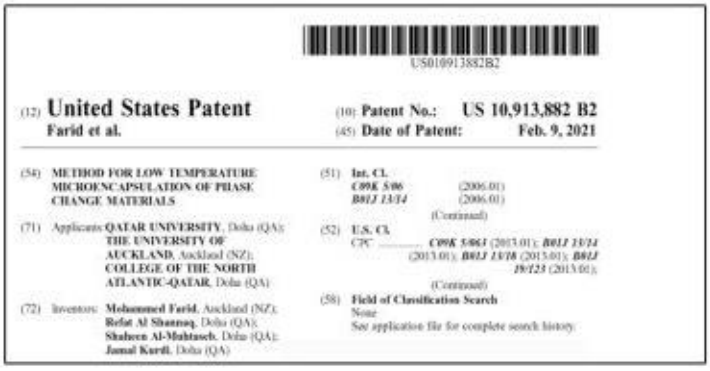
(86) International application number: PCT/US2016/049750

(87) International publication number: WO 2017/040699 (09.03.2017 Gazette 2017/10)

(54) METHOD FOR LOW TEMPERATURE MICROENCAPSULATION OF PHASE CHANGE MATERIALS

VERFAHREN ZUR NIEDRIGTEMPERATURMIKROVERKAPSELUNG VON PHASENWECHSELMATERIALIEN

PROCÉDÉ POUR MICROENCAPSULATION À BASSE TEMPÉRATURE DE MATÉRIAUX À CHANGEMENT DE PHASE



US010913882B2

(12) United States Patent

Farid et al.

(10) Patent No.: US 10,913,882 B2

(45) Date of Patent: Feb. 9, 2021

(54) METHOD FOR LOW TEMPERATURE MICROENCAPSULATION OF PHASE CHANGE MATERIALS

(71) Applicants: QATAR UNIVERSITY, Doha (QA); THE UNIVERSITY OF AUCKLAND, Auckland (NZ); COLLEGE OF THE NORTH ATLANTIC-QATAR, Doha (QA)

(72) Inventors: Mohammed Farid, Auckland (NZ); Refat Al Shannaq, Doha (QA); Shaheen Al-Muhtaseb, Doha (QA); Jamal Kurdi, Doha (QA)

(51) Int. Cl. C09K 5/06 (2006.01) B01J 13/14 (2006.01) (Continued)

(52) U.S. Cl. CPC ..... C09K 5/063 (2013.01); B01J 13/14 (2013.01); B01J 13/18 (2015.01); B01J 19/123 (2013.01); (Continued)

(58) Field of Classification Search None

See application file for complete search history.

Journal of Natural Gas Science and Engineering

Volume 94, October 2021, 104120

An empirical correlation-based model to predict solid-fluid phase equilibria and phase separation of the ternary system CH_4-CO_2-H_2S

Hani Ababneh, Shaheen A. Al-Muhtaseb

Journal of Natural Gas Science and Engineering

Volume 96, December 2021, 104289

A review of the features and applications of ZIF-8 and its derivatives for separating CO_2 and isomers of C_3- and C_4- hydrocarbons

Manel Bergaoui [a, b], Mohamed Khalfaoui [a, b], Ahmed Awadallah-F [c, 1], Shaheen Al-Muhtaseb [c]

2022 ChE Senior Design Project Winners

The Department of Chemical Engineering was proud that it's ChE 2022 Seniors presented their Senior Design Projects on May 10-11, 2022. 15 groups presented their year long design project in front of faculty, peers, alumni and family members. The ChE Design team role play as engineering design consulting firms and they develop a grassroots design for an an industrial manufacturing facility. This year's 2022 winners are: First place - Green Qatar Ethylene Company, the team included Maria Haki, Shohdah Makki, Nansee Abu Zaid, and Alankaa Al-Harbi, supervised by Prof. Ibnewaleed Hussein. Second Place winners were Methanol Production Pioneers Company (MPPC), the team included Lujain Aljohi, Sali Hamze, Nora Mohamed and Sara Raeesi, supervised by Dr. Donghyun Kim. The third place winners were the MeGly Company, the team included Alanoud AlMalki, Roudha Al-Motawaa, Noora Al-Darwish and Amna Al-Hitmi, supervised by Prof. Bassim Hammadi. The College of Engineering recognized the wining projects on May 24th, 2022 during its CENG's Recognition and Networking Day event. Congratulations to the winners and the all of the graduating seniors on this achievement.


كلية الهندسة
College of Engineering

AIChE

Department of Chemical Engineering is proud to Announce

2022 CENG ChE Senior Design Project Final Presentation *WINNERS*

May 10-11, 2022

	Student name	Supervisor	Project Title
First Place	Maria Haki Shohdah Makki Nansee Abu Zaid Alankaa Al-Harbi	Dr. Ibnelwaleed Hussein	Design of Ethylene Plant
Second Place	Lujain Aljohi Sali Hamze Nora Mohamed Sara Raeesi	Dr. Donghyun Kim	Designing of Methanol Plant - Methanol Production Pioneers Company
Third Place	Alanoud Al Malki Roudha Al- Motawaa Noora Al-Darwish Amna Al-Hitmi	Dr. Bassim Hammadi	Ethylene oxide to ethylene glycol plant design

Welcome to New Faculty Member

Dr. AbdulRahman Joined The Department of Chemical Engineering as Assistant Professor

The Chemical Engineering Department is pleased to welcome Dr. AbdulRahman Ghannoum to the faculty as an Assistant Professor.

Dr. AbdulRahman Ghannoum received his PhD from the University of Waterloo in Chemical Engineering (Nanotechnology) working on a novel approach to trace lithium-ions from within batteries using evanescent wave sensors in 2018. His work has received international recognition, prompting PhDs and Postdocs to visit the Sensors and Integrated Microsystems Laboratory to collaborate and learn this new approach. He has also initiated collaborations with researchers at Argonne National Laboratory investigating methods to trace lithium sulfides within lithium sulfur batteries. Dr. Ghannoum continued investigating the use of fiber-optics in various sensing applications including pressure sensors for harsh environments, highly sensitive fiber-optic based temperature sensors and more recently localized surface plasma resonance sensors for bio-applications.

Dr. Ghannoum's ability to pivot in his research has been evident with his more recent exploration into the automation of COVID-19 contact tracing and transmission risk modeling. Partnering with a technology company his ideas sparked the commercialization of localized contact tracing devices for private companies and educational institutions. His ability to develop algorithms and his more recent acquired skills in artificial intelligence has contributed to the implementation and continuous development of an efficient contact tracing solution.

In addition to his diverse research background Dr. Ghannoum enjoys teaching and has taken every step he could to develop his teaching skills. He was awarded a Certificate in University Teaching in 2018 from the University of Waterloo, which required two years of dedicated effort to enrich his skills in course development and the art of lecturing. His high-quality of teaching prompted a letter from the Dean of Engineering at the University of Waterloo on two occasions congratulating him on his performance in 2019 and 2021.

At Qatar University Dr. AbdulRahman Ghannoum hopes to continue providing a healthy and enriching environment for students while establishing a world-class multidisciplinary research group dedicated to the design and optimization of unique sensing systems that monitor chemical processes and human health.

The Department of Chemical Engineering organizes six seminar this 2021/22 Academic year

The department of chemical engineering organized six seminar this 2021/22 Academic year, three of which were joint seminars with the Gas Processing Center. The distinguished list of speakers included international and local institutions.

AIChE Student Chapter Seminars

The AIChE student chapter was excited to organize a number of activities this Spring 2022 as a way of getting back to university life post COVID. Three seminars were managed by the new President of the AIChE Studen chapter, Ms. Daneh Ali Khalili. And in working with her fellow officers in the chapter, they brought in industry experts from Barazan and Qatar Chemical Company (Qchem). Eng. Rashid Al-Mohannadi, Manager of the Research and Development at Barazan and Ms. Dana Alyafei a research and ChE Alumni gave a joint seminar titled " Barazan and Engineering Career Start**"**, on March 30th.

Eng. Ahmed Salem, and expert process engineers from Qchem, gave a technical presentation on "Industrial Project Phases adn Cost Estimation", on April 11th.

And on April 18th, Eng. Ghanim AlSuleiti, a young Qatari entrepreneur passionate about creating a positive impact on society gave a talk to our chemical engineering students. He shared his experience in moving from engineering to a career in business as entrepreneur.

Department of Chemical Engineering & Gas Processing Center
cordially invites you to a seminar on

CONVERSION OF WASTE STREAMS FOR GASEOUS AND LIQUIDS FUELS IN MALAYSIA

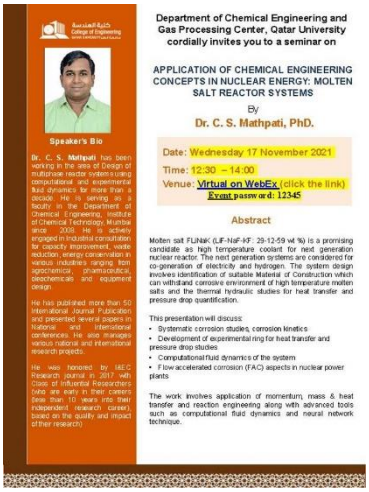
by

Dr. Bridgid Chin Lai Fui

Speaker's Bio

Date: Wednesday 2nd March 2022
Time: 12:30 – 14:00
Location: Virtual on WebEx (click the link)
Meeting password: 112233

Abstract



Department of Chemical Engineering and Gas Processing Center, Qatar University
cordially invites you to a seminar on

APPLICATION OF CHEMICAL ENGINEERING CONCEPTS IN NUCLEAR ENERGY: MOLTEN SALT REACTOR SYSTEMS

By

Dr. C. S. Mathpati, PhD.

Speaker's Bio

Date: Wednesday 17 November 2021
Time: 12:30 – 14:00
Venue: Virtual on WebEx (click the link)
Event password: 12345

Abstract

Department of Chemical Engineering & Gas Processing Center
cordially invites you to a seminar on

Modified 2D Nanostructured materials for Environmental Remediation

by

Dr. Rengaraj Selvaraj., Ph.D., FRSC.,

Speaker's Bio

Date: Wednesday 8th March 2022
Time: 12:30
Location: BCR- G122

Abstract

GPC

Gas Processing Center & Department of Chemical Engineering

Joint Seminar

Joining the Billion Cell Club for Oil and Gas Reservoir Simulation – Challenges and Successes"

Day: Sunday, March 27, 2022
Time: 12:15 pm – 1:15 pm
Location: F101, Zone 7, Research Complex (H10)

Dr. Ahmad Sami Abushaikha
Associate Professor, College of Science and Engineering, HBKU

Abstract:

Department of Chemical Engineering & Gas Processing Center
cordially invites you to a seminar on

Integrated Multiscale Modelling-Simulation (MMS) and Machine Learning (ML) based Design and Development of Novel Technologies

by

Dr. Seckin Karagoz

Speaker's Bio

Date: Monday 28th March 2022
Time: 12:30 – 1:30 PM
Location: BCR-G122
Meeting Online Link: WebEx Link
Meeting Password: bgPNpfHz437

Abstract

Job Well Done and Senior Farwell

Job Well Done & Senior Farewell

The department of chemical engineering and AIChE student chapter paid tribute to their graduating seniors during the annual Job Well Done Event. The event took place in the Research Complex on April 19th. Seniors and faculty and students dressed in best with a Ramadan vibe theme to celebrate graduating seniors and to welcome upcoming seniors. The program for the day included, AIChE Mucnchkins Awards, the matching of upcoming Senior design project teams with their supervising faculty.

Qatargas sponsors Best Overall Prize at 18th Annual Plant Design Competition

Qatargas sponsors Best Overall Prize at 18th Annual Plant Design Competition

Doha – Qatar, 23 June 2022: Qatargas Operating Company Limited (Qatargas) sponsored and presented the Best Overall Prizes for the first, second and third place winning teams at the 18th Annual Plant Design Competition, organized by Qatar University's Department of Chemical Engineering Department.

With a rich legacy dating back to 2004, this annual contest aims to provide students with opportunities to gain world-class engineering experience.

The 18th Chemical Engineering Plant Design Contest was held on 18th May 2022 at the Qatar University, College of Education. Twelve Female teams and three Male teams participated in the this years senior design projectsCompetition.

The competition was of an exceptionally high standard and the best three teams were selected by the judges unanimously from a total of 15the contesting teams. Mubarak Al-Hajri, Head of Process Engineering Onshore South, represented Qatargas as Lead Judge. Ahmed Salem, process engineer from Qatar Chemical Company (QChem), and Abdulla Hussein Al-Ishaq, process engineer from Qatar Fertilizer Company (QAFCO) were amongst the esteemed judging panel.

- The first-place winning team created a project titled “Designing of Methanol Plant – Methanol Production Pioneers Company (MPPC)”. The team included Lujain Aljohi, Sali Hamze, Nora Mohamed and Sara Raeesi and supervised by Dr. Donghyun Kim. The project involved the concept, design and construction of a methanol production company. The students also drew up detailed plans for operating the company.
- The second place winners presented the concept and design of an ethylene plant that follows Qatar regulations, based on chemical engineering principles and expertise that was gained through years of study. The team included Naba Ali, Sara Al-Kuwari and Samah Abdulla, supervised by Prof. Fadwa Eljack.
- The third place winning project focused on the design of a GTL (gas-to-liquids) process plant, in which natural gas was to be converted to produce approximately 140,000 barrels per day of highly demanded liquid hydrocarbon fuels, such as gasoline and diesel. The final GTL plant design consists of three main stages: an initial reforming reaction, followed by a Fischer-Tropsch reaction step, and the final hydrocracking and separation stage. The team are Anas Ahmed, Mhd Kher Al Alami and Ali Ibrahim, supervised by Dr. Mohammed AlMarri.

Activities

The evaluation criterion for technical reportsthe competition included Technical Content; Computations and Analysis; Quality of Diagrams & Tables and Writing Stythe presentation, visual aids, oral communication abilities and teamworkle. As for video presentations, the evaluation criterion included Organization and Structure; Technical Content; Visual Aids; and Teamwork.

Sheikh Khalid Bin Abdulla Al-Thani, Chief Engineering & Projects Officer, Qatargas, and Rashid Sultan Al-Kuwari, Asset & Surveillance Engineering Manager, distributed prizes to winning teams in a special ceremony held at Qatargas Doha Head Office. Dr. Majeda Khraisheh, Dr. Fadwa ElJack, Dr. Mohammed Al-Marri and Dr. Donghyun Kim of Chemical Engineering at Qatar University also were acknowledged at the attended the event.

Commenting on the contest, Sheikh Khalid Bin Abdulla Al-Thani, Chief Engineering & Projects Officer, Qatargas, said: "This award encourages students to think practically and face real challenges in their chosen career path, furthering their knowledge and skillset as students and future engineers. Supporting and encouraging education is a key element of Qatargas Corporate Social Responsibility initiative. We believe that partnerships between academic institutions and the industry help students develop themselves as professionals who can contribute remarkably to the industry and serve the greater interests of the country.".