

## Curriculum Vitae

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### **Laith S. Sabri,**

Laith Salim Sabri was born in Baghdad, Iraq, on 1981. He received his B.S. in University of Saddam and the first M.S. in chemical engineering from the University of Al-Nahrian Baghdad, Iraq in 2002 and 2005, respectively. In addition, he ranked the 9 out of 16 graduates in his specialization for his B.S. degree. Before joining Missouri University of Science and Technology (Missouri S&T), Laith was a faculty member in the Chemical Engineering Department at the University of Technology Baghdad, Iraq from 2006 until 2013, where he was awarded a scholarship by The Ministry of Education and Higher Researcher in Iraq to study for his Ph.D. in chemical engineering. He started at Missouri S&T during the Fall semester of 2013 to work under the supervision of Dr. Muthanna Al-Dahhan. He obtained his second M.S. in chemical engineering from Missouri S&T in May 2015. He has received several awards and recognitions for his research, including the Travel Award for the 24th International Symposium on Chemical Reaction Engineering (ISCRE 24, 2016), won the 3rd place prize in the poster competition for ISCRE 24, the Best Poster Award for Graduate Research Showcase Spring, Missouri S&T (2017), and the Top Three Posters in Young Researcher Competition, Algae Biomass Summit (2017). Laith is a member of AIChE and Society of Chemical Industry (SCI). He is a fellow of Tau Beta Pi engineering honor society. His research activities include six publications in peer-reviewed journals and over 41 national and international conference presentations. Additionally, 11 journal papers have been published and 4 other currently under submitted. Laith received his Ph.D. in chemical engineering from Missouri S&T in Dec 2018.

### **EDUCATION**

- *Ph.D. Candidate & Research Assistant / Graduate Teaching Assistant / Missouri University of Science and Technology (Missouri S&T)/ Department of Chemical & Biochemical Engineering. USA. Dec.2018.*
- *M.S. degree in (Multiphase flow system) Missouri University of Science and Technology (Missouri S&T)/ Department of Chemical & Biochemical Engineering. USA. 2015.*
- *M.S. degree in (Catalytic Modification and Application) Al-Nahrian University / Department of Chemical Engineering. Iraq, Baghdad. 2005.*
- *B.S. degree in Chemical Engineering, Al-Nahrian University. Iraq, Baghdad. 2003.*

### **SKILLS & ABILITIES**

#### **MANAGEMENT**

- Lecturer as a Faculty member in University of Technology in Baghdad since **(2006-now)**.
- Lead discussion sections, tutorials, or laboratory sections.
- Teach undergraduate level courses.
- Complete laboratory projects prior to assigning them to students so that any needed modifications can be made.
- Evaluate and grade examinations, assignments, or papers and record grades.
- Supervise students' laboratory work.
- Computer Lab to teach a software scales (Matlab, Hysys, and Statistical).
- Supervisor for student's projects.
- Teaching Assistant in *ChemEng 4096* (teach this course in USA).
- Chemical Engineering Economics and Introduction to Design, undergraduate, SP2018. (Teach this course in USA).
- *CHEM ENG 320 - Chemical Process Flowsheeting* for graduate and undergraduate students, fall 2017. (Teach this course in USA).
- *Teaching optimization course fourth grade, university of technology, chemical engineering Dep. 2019.*
- *Teaching Reactor design course third grade, university of technology, chemical engineering Dep. 2019.*
- *Teaching chemicals from petroleum course third grade, university of technology, chemical engineering Dep. 2019.*
- *Teaching Industrial and Petroleum Pollution Control course fourth grade, university of technology, Dep. 2019.*

### EXPERIENCES

- Work in Multiphase Reactors and Applications Laboratory, M-REAL. Department of Chemical and Biological engineering .Missouri University of Science and Technology.
- Radioactive Particle Tracking (RPT) Techniques
- Single Source Gamma Ray Computed Tomography (CT) Technique
- Dual Sources Gamma Ray Computed Tomography (DSCT) Technique
- Gamma Ray Densitometry (GRD) Technique
- 4-Point Optical Fiber (Quartz and Plastic) Probes for gas-liquid and gas-liquid-solid systems
- Local Mass Transfer Optical Fiber Probe
- Gas Dynamic Tracer Technique for gas-solid, gas-liquid, and gas-liquid-solid systems
- Heat Transfer Probes for gas-solid, gas-liquid, and gas-liquid-solid systems
- Coating radioactive particle (Co-60) by composite particle (Polypropylene).
- Study the Hydrodynamics in split airlift photobioreactor during Algae growth.
- Study the Hydrodynamics in Bubble Column reactors with and without internals.

### SKILLS

- Certificate in Chemical & Biological Security Training (Assisted in Executing), Sandia National Laboratories, Atlanta, 23-25 Feb-2018.
- Certificate in Lab Design Training, Sandia National Laboratories, Chigaco, 19-21 Dec-2018.
- Certificate [2018 LyondellBasell Sponsored CCPS Faculty Workshop](#) , January 8-11, 2018, Houston, TX.
- Certificate in Chemical & Biological Security Training, Sandia National Laboratories, Kansas City, Mo, Dec-2017.
- Certificate in Computational Fluid Dynamics (CFD) analysis from (Technology Training & Research Center) in India (*online course*).
- Certificate in Radiation safety Training from Department of Environmental Health and Safety. (*M&ST University*)
- A successfully completed Occupational Safety and Health Training Course in general industry safety and health (*OSHA*).
- Certificate in Deep Learning and Neural Network course (Stanford University) (<https://www.coursera.org/account/accomplishments/records/BX43ZN6VWKTE>).
- Certificate in Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization (Stanford University). (<https://www.coursera.org/account/accomplishments/certificate/QUMCDAD3BVK4>)
- EHS: General Lab Safety Training from MST University in Missouri.
- Microsoft Office, MATLAB, OriginPro 2017, Computational Fluid Dynamic CFD, CFX, Fluent, (training on C++ (**present**)), (training on Python (**present**)).

### CONFERENCES, SYMPOSIUM AND ANNUAL MEETINGS

1- [International-Mexican Congress on Chemical Reaction Engineering, \(IMCCRE\), JUNE 5-9, 2016, QUERÉTARO, MÉXICO](#)

Diagnostic of phase distribution via Gamma Ray Computed Tomography (CT) for Microalgae culturing in split photo bioreactor column

**Laith S. Sabri**, Abbas J. Sultan and Muthanna H. Al-Dahhan

2- [24th International Symposium on Chemical Reaction Engineering \(ISCRE 24\), June 12-15, 2016, Minneapolis Minnesota, U.S.A.](#)

Investigating the effect of heat exchange tubes size on phase distribution of bubble columns for Fischer Tropsch synthesis by using gamma ray computed tomography (CT) technique

Abbas Sultan, **Laith S. Sabri** and Muthanna Al-Dahhan

3- [International-Mexican Congress on Chemical Reaction Engineering, \(IMCCRE\), JUNE 5-9, 2016, QUERÉTARO, MÉXICO.](#)

Investigating the Impact of Vertical Internals on the Gas Holdup Distribution in Pilot Scale Bubble Column for Fischer-Tropsch Synthesis via Gamma-Ray Computed Tomography (CT)

Technique. Abbas Sultan, **Laith Salim** and Muthanna Al-Dahhan

4- [8th World Congress on Industrial Process Tomography, 26 - 29 September 2016, Iguassu Falls, Brazil](#)

Investigating the Influence of Bundle of Heat Exchanger Tubes (internals) on the Gas Holdup Distributions in Pilot Scale Bubble Column with Internals for Fischer- Tropsch Synthesis (FT)

## Curriculum Vitae

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Via Gamma-Ray Computed Tomography (CT) Technique. Abbas Sultan, **Laith Salim** and Muthanna Al-Dahhan  
5- [8th World Congress on Industrial Process Tomography, 26 - 29 September 2016, Iguassu Falls, Brazil](#)

Imaging and Visualization of phase distribution for Microalgae culturing in split photobioreactor column via Gamma Ray Computed Tomography (CT)

**Laith Sabri**, Abbas Sultan, Muthanna Al-Dahhan

6- [2016 Midwest Energy Policy Conference and Laufer Energy Symposium, St. Louis, MO, U.S.A.](#)

Gas Holdup Distribution in Bubble Column with Heat Exchange Tubes (Internals) for Gas-to-Liquid (GTL) Technology as Alternative Energy

Abbas Sultan, **Laith Salim** and Muthanna Al-Dahhan

7- [2016 AIChE Annual Meeting, November 13-18, 2016, San Francisco, CA, U.S.A.](#)

Visualization Phases Distributions in the Pilot-Scale Bubble Column with Internals via  $\gamma$ -Ray Computed Tomography (CT) Technique

Abbas Sultan, **Laith Salim** and Muthanna Al-Dahhan

8- [2016 AIChE Annual Meeting, November 13-18, 2016, San Francisco, CA, U.S.A.](#)

Microalgae's Cells Mapping by Radioactive Particle Tracking (RPT)

**Laith Sabri**, Abbas Sultan, Muthanna Al-Dahhan

9- [International Conference on Applications of Radiation Science and Technology](#)

(ICARST-2017), 24–28 April 2017, Vienna, Austria Radioactive Particle Tracking (RPT) Technique for Tracking the Microalgae's cells Movement in Split photo bioreactor Column

**Laith Sabri**, Abbas Sultan, Muthanna Al-Dahhan

10- [International Conference on Applications of Radiation Science and Technology \(ICARST-2017\), 24–28 April 2017, Vienna, Austria](#)

Linear Attenuation Coefficients and Gas holdup Distributions of Bubble Column with Vertical Internal Bundle for Fischer-Tropsch (FT) Synthesis

Abbas Sultan, **Laith Salim** and Muthanna Al-Dahhan

11- [The 7th International Conference on Algal Biomass, Biofuels and Bioproducts, 18 - 21 June, 2017 | Hyatt Regency, Miami, FL, USA.](#)

“Influence of Hydrodynamics of Multiphase Flow on Microalgae Cells' Movements and Irradiance Distributions by using Radioactive Particle Tracking (RPT) Technique “

**Laith S. Sabri**, Abbas J. Sultan, Muthanna H. Al-Dahhan

12- [International Conference on Environmental Impacts of the Oil and Gas Industries: Kurdistan, Iraq, 17-19 April, 2017.](#)

Assessment of RPT Calibration during Microalgae Culturing for Wastewater Treatment of Petroleum and Gas Industry

**Laith S. Sabri**, Abbas J. Sultan, Muthanna H. Al-Dahhan

13- [13th International Conference on Gas–Liquid and Gas–Liquid–Solid Reactor Engineering \(GLS-13\) - Crowne Plaza, Brussels, Belgium/Sunday 20 August → Wednesday 23 August 2017.](#)

Analysis of Airlift Photobioreactor via Computed Tomography CT and Radioactive Tracking Techniques

**Laith Sabri**, Abbas Sultan, Muthanna Al-Dahhan

14- [13th International Conference on Gas–Liquid and Gas–Liquid–Solid Reactor Engineering \(GLS-13\) - Crowne Plaza, Brussels, Belgium/Sunday 20 August → Wednesday 23 August 2017.](#)

Imaging phase distribution in a bubble column equipped with intense heat exchanging tubes for Fischer-Tropsch (FT) synthesis via gamma-ray computed tomography (CT) technique

Abbas Sultan, **Laith Sabri**, Muthanna Al-Dahhan

15- [10th WORLD CONGRESS OF CHEMICAL ENGINEERING, 1<sup>st</sup>-5<sup>th</sup> October-2017, Barcelona, Spain](#)

Hydrodynamic Measurements for Airlift Reactor via Non-invasive RPT and CT Techniques

**Laith S. Sabri**, Abbas J. Sultan, Muthanna H. Al-Dahhan

16- [10th WORLD CONGRESS OF CHEMICAL ENGINEERING, 1<sup>st</sup>-5<sup>th</sup> October-2017, Barcelona, Spain](#)

Investigating the Impact of Bundle of Heat Exchanging Tubes (Internals) Size on the Hydrodynamics of Bubble Column for Fischer-Tropsch (FT) Synthesis by using Advanced Non-Invasive Techniques

Abbas J. Sultan, **Laith S. Sabri**, Muthanna H. Al-Dahhan

17- [2017 AIChE Annual Meeting, October 29 - November 3, 2017, Minneapolis, MN.](#) Local Flow Dynamics in Split Airlift Reactor (Experimental and Validation of CFD Simulations)

**Laith S. Sabri**, Abbas J. Sultan, Haider Al-Nasery, Muthanna H. Al-Dahhan

18- [2017 AIChE Annual Meeting, October 29 - November 3, 2017, Minneapolis, MN.](#)

Integration of Experimental and Modeling for Evaluation of Microalgae Culturing in Split Airlift Photobioreactor

## Curriculum Vitae

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- Laith S. Sabri**, Abbas J. Sultan, Muthanna H. Al-Dahhan  
19- 2017 AIChE Annual Meeting, October 29 - November 3, 2017, Minneapolis, MN.  
*Experimental and CFD Simulation Study of Bubble Column Equipped with a Bundle of Heat Exchanging Tubes (Internals) for Fischer-Tropsch (FT) Synthesis*
- Abbas J. Sultan, **Laith S. Sabri**, Muthanna H. Al-Dahhan  
20-2017 AIChE Annual Meeting, October 29 - November 3, 2017, Minneapolis, MN.  
Radioactive Particle Tracking (RPT) Technique for Pilot-Scale Bubble Column
- Laith S. Sabri**, Abbas J. Sultan, Muthanna H. Al-Dahhan  
21-2017 AIChE Annual Meeting, October 29 - November 3, 2017, Minneapolis, MN.  
Gamma-ray Computed Tomography (CT) Technique for Pilot-Scale Bubble Column Reactor
- Abbas J. Sultan, **Laith S. Sabri**, Muthanna H. Al-Dahhan.  
22-Muthanna Al-Dahhan, **Laith S. Sabri**, Abbas J. Sultan (2017) Plenary Lecture, Multi-Scale Modeling for Advancing the Performance Prediction and Optimization of Two-Phase Flow Packed Reactors, *The Annual Total Seminar on Mathematics, Numerical Simulations, Numerical Methods, HPC, Data Science (MATHIAS 2017)*, Hotel L'Elysee, Val d'Europe, Disneyland Paris, France, October 25-27.
- 23-Abbas J. Sultan, **Laith S. Sabri**, Muthanna H. Aldahhan, "Study the Impact of Size of Heat-Exchanging Tubes on Liquid Velocity Field and Turbulent Parameters in Bubble Column for Fischer-Tropsch Synthesis Via Radioactive Particle Tracking (RPT) Technique," *International-Mexican Congress on Chemical Reaction Engineering (IMCCRE 2018)*, June 10-13, 2018.
- 24-Hayder Alnaseri, Abbas J. Sultan, **Laith S. Sabri**, Muthanna H. Aldahhan, "CFD Simulation the Effect of Internal Configurations on the Bubble Column Dynamic of Fischer-Tropsch (FT) Synthesis," *International-Mexican Congress on Chemical Reaction Engineering (IMCCRE 2018)*, June 10-13, 2018.
- 25-**Laith S. Sabri**, Abbas J. Sultan, Muthanna H. Aldahhan, "Local Hydrodynamics Characteristics of Cylindrical Split Airlift Reactor via Radioactive Particle Tracking (RPT) Technique" 2018 GCEAS, Global Conference on Engineering and Applied Science, July 10-12, Tokyo, Japan.
- 26-**Laith S. Sabri**, Abbas J. Sultan, Muthanna H. Aldahhan, "Split Airlift Photobioreactor For High-Value Microalgae Culturing: Characterization Of Hydrodynamics By Using (RPT) And (CT)", 25th International Conference on Chemical Reaction Engineering, ISCRE25, May 20-30, 2018 Florence, Italy.
- 27-Abbas J. Sultan, **Laith S. Sabri**, Muthanna H. Aldahhan, "Influence Of Bundle Of Heat Exchanging Tubes, Their Configuration, And Column Size On The Gas Holdup Distributions In Bubble Column Via Gamma-Ray Computed Tomography", 25th International Conference on Chemical Reaction Engineering ISCRE25, May 20-30, 2018 Florence, Italy.
- 28-**Laith S. Sabri**, Abbas J. Sultan, Muthanna H. Aldahhan, "Local gas holdup Distributions in Cylindrical Split Airlift Reactor via Gamm-Ray Computed Tomography (CT) Technique" *International-Mexican Congress on Chemical Reaction Engineering (IMCCRE 2018)*, June 10-13, 2018.
- 29-**Laith S. Sabri**, Abbas J. Sultan, Muthanna H. Aldahhan, "Characterization slit photobioreactor" 2018 Algae Biomass Summit, October 14-17, 2018. *The Woodlands Waterway Marriott Hotel & Convention Center, the Woodlands (Greater Houston), Texas.*
- 30-**Laith S. Sabri**, Abbas J. Sultan, Muthanna H. Aldahhan, "Characterization of Hydrodynamics for Split Photobioreactor via Radioactive Particle Tracking (RPT) Technique," *NETL - Multiphase Workshop comes to Houston - Aug 7-9, 2018.*
- 31- Muthanna H. Aldahhan, **Laith S. Sabri**, "Advancement Measurement Techniques for Validation of Computational Fluid Dynamics (CFD)," *NETL - Multiphase Workshop comes to Houston - Aug 7-9, 2018.*
- 32- Muthanna H. Aldahhan, **Laith S. Sabri**, Premkumar Kamalanathan, Haider Taofeeq, Neven Ali, A Efhaima, "Advancing Hydrodynamics and Scale-up of Gas-Solid Systems via Sophisticated Measurement Techniques" *NETL - Multiphase Workshop comes to Houston - Aug 7-9, 2018.*
- 33-Aastha Ojha, **Laith S. Sabri**, Laith S. Sabri, "Characterization of Bubble Dynamics and Local Gas Holdup in a cylindrical Airlift Photobioreactor during Microalgae Culturing," *AIChE18, Oct28- Nov 2, 2018.*
- 34-**Laith S. Sabri**, Abbas J. Sultan, Muthanna H. Al-Dahhan, "Local Hydrodynamics Characteristics of Cylindrical Split Airlift Reactor via Radioactive Particle Tracking (RPT) Technique," *AIChE18, Oct28- Nov 2, 2018.*
- 35-Abbas J. Sultan, **Laith S. Sabri**, Muthanna Al-Dahhan. "Influence of Heat Exchanging Dense Internals on the Flow Dynamics Parameters in Bubble Column with and without Internals via Radioactive Particle Tracking (RPT) Technique", *AIChE18, Oct28- Nov 2, 2018.*

## PUBLICATION

- 1- **Laith S. Sabri**; Abbas J. Sultan; Muthanna H. Al-Dahhan “**Split Internal-Loop Photobioreactor for Scenedesmus sp. Microalgae: Culturing and Hydrodynamics**” Chinese Journal of Chemical Engineering, accepted manuscript, 2020.
- 2- **Laith S. Sabri**; Abbas J. Sultan; Muthanna H. Al-Dahhan “**Investigating the Cross-Sectional Gas Holdup Distribution in a Split Internal-loop Photobioreactor during Microalgae Culturing Using a Sophisticated Computed Tomography (CT) Technique**” Chemical Engineering Research and Design, vol.149, 13-33, 2019.
- 3- **Laith S. Sabri**; Abbas J. Sultan; Muthanna H. Al-Dahhan “**Assessment of RPT calibration need during microalgae culturing and other biochemical processes**”, 2017 International Conference on Environmental Impacts, IEEE *Xplore*, p.59-64, 2018.
- 4- **Laith S. Sabri**; Abbas J. Sultan; Muthanna H. Al-Dahhan “**Mapping of microalgae culturing via radioactive particle tracking**” Chem. Eng. Sci. Vol-192, 31 December 2018, Pages 739-758.
- 5- Suad Abdulmuttaleb Mohammed, **Laith Salim Sabri**, Areej Dalaf Abbas,” **Effect of Operating Conditions on Reverse Osmosis (RO) Membrane Performance**” No.12 Vol 20, 2014 Journal of Engineering.
- 6- **Laith S. Sabri** “**Effect of Mixing Time and Temperature on the Rheology of Water/Oil Emulsion**” *Eng. & Tech. Journal, Vol.30, No.12, 2012.*
- 7- Ali Abdul-Rahman Al-Azzi. **Laith S. Sabri**,” **Influence of Draft Tube Diameter on Operation Behavior of Air Lift Loop Reactors**” Al-Khwarizmi Engineering Journal, Vol. 6, No. 2, PP 21-32 (2010).
- 8- Jabir Shanshool, **Laith S. Sabri**,” **Removal of Phenol Pollutants by Modification Molecular Sieves 13X**” Eng. & Tech. Journal ,Vol.27, No.15,2009.
- 9- Khalid A. Sukkar, Hayam M. Abd Al-Raheem, **Laith S. Sabri**, Lattif A. Resym,”New Development in Catalytic Reforming Process to Produce High Octane Gasoline” No.10, Journal of Petroleum Reserch and Studies (JPR & S),2013.
- 10- Abbas J. Sultan, **Laith S. Sabri** and Muthanna Al-Dahhan, “Influence of the Size of Heat Exchanging Tubes (Internals) on Gas Holdup Distribution in a Bubble Column for Fischer-Tropsch Synthesis (FT) Using Gamma-ray Computed Tomography (CT)”, Chemical Eng. Sci. 186, 1-25, 2018.
- 11- Abbas J. Sultan, **Laith S. Sabri** and Muthanna Al-Dahhan, “Overcoming the Gamma-Ray Computed Tomography Data Processing Pitfalls for Bubble Column Equipped with Vertical Internal Tubes)” Canadian journal of chemical Eng, 9999, 2018.
- 12- Abbas J. Sultan, **Laith S. Sabri** and Muthanna Al-Dahhan, “Impact of the Heat Exchanging Tube Configurations on Gas Holdup Distribution in Bubble Column via Gamma-Ray Computed Tomography” International Journal of Multiphase Flow, Available online 4 May 2018.
- 13- Abbas J. Sultan, **Laith S. Sabri** and Muthanna Al-Dahhan, “Investigating the influence of the configuration of the bundle of heat exchanging tubes and column size on the gas holdup distributions in bubble columns via gamma-ray computed tomography”, Experimental Thermal and Fluid Science, 98, 68-85,2018.
- 14- Rados Navac, **Laith S. Sabri** and Muthanna Al-Dahhan, “Hydrodynamics of High-Pressure Slurry Bubble Column Reactor Using Advanced Radiational Measurements Techniques” (**under reviewers, Journal of hydrodynamics**).
- 15- **Laith S. Sabri**, Astha Ojah, Abbas J. Sultan and Muthanna Al-Dahhan, “Advancing Microalgae Culturing and Optimization by Integrating the Dynamic Growth Model with Cells Trajectories” (**revised submission, Algae research journal**).

## AWARD

- 1- PhD scholarship from the *Ministry of Higher Education and Scientific Research* in Iraq – Awarded for top Iraqi students, from Aug. 2012 to May, 2018.
- 2- Travel award for 24<sup>th</sup> International Symposium on Chemical Reaction Engineering (ISCRE 24), Minneapolis Minnesota, USA, 2016.
- 3- Won 3rd place prize in poster competition for 24th International Symposium on Chemical Reaction Engineering (ISCRE 24), Minneapolis Minnesota, USA, 2016.
- 4- Won best poster Award for Graduate Research Showcase Spring, Missouri University Science and Technology, 2017.



## *Curriculum Vitae*

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- 5- Win the third poster in Young Researcher Competition, algae biomass summit 2017, Salt Lake City, October 29 – November 1.
- 6- Graduate leadership Award from Graduate Leaders' Institute in Missouri University of Science and technology 2017.
- 7- Travel award for 25<sup>th</sup> International Symposium on Chemical Reaction Engineering (ISCRE 25), *Florence, Italy, May*, 2018.
- 8- Awarded the 2018 Mary Rosenthal Memorial Student Travel Grant in 2018 Algae Biomass Summit in Woodlands, Texas, October 14-17, 2018.

### **SERVICES AND ACTIVITIES**

- 1- Worked as a volunteer for servicing in The Community Partnership in Rolla/Missouri.
- 2- Chemical and Biochemical Engineering Department *representative* and member in Council of Graduate Students (CGS) in Missouri University of Science and Technology 2017-2018.
- 3- Campus Committee Representative (Procedure & Agenda Committee) 2017-2018.

### **ACKNOWLEDGMENT**

- 1- Vaibhav Khane and Muthanna H Al-Dahhan “Hybrid dynamic radioactive particle tracking (RPT) calibration technique for multiphase flow systems” *Measurement Science and Technology*, Volume 28, No.5. 2017.
- 2- Mohammed K.Al Mesfer, Abbas J.Sultan, Muthanna H.Al-Dahhan “Impacts of dense heat exchanging internals on gas holdup cross-sectional distributions and profiles of bubble column using gamma ray Computed Tomography (CT) for FT synthesis” *Chemical Engineering Journal*, Volume 300, 15 September 2016, Pages 317-333.

### **MEMBER**

- 1- Member in AIChE.
- 2- Member in society of chemical industry (SCI)
- 3- Member in Algae Biomass Origination (ABO).
- 4- Member in American Nuclear Society (ANS).
- 5- Honor Chair and Member in National Honor Society for Engineering- *Tau Beta Pi* (2017/2018).
- 6- Member in International Society for Industrial Process Tomography ISIPT.