



University of Technology, Iraq
Chemical Engineering Department



CURRICULUM VITAE (C.V.)

Name: *Prof. Dr. Khalid A. Sukkar*

Position: Head of Chemical Engineering and Petroleum Refining Branch
Chem. Eng. Dept./ University of Technology, Iraq

Date of Birth: 1970 / Baghdad

Marital Status: Married

Affiliation: Chemical Engineering, University of Technology, Baghdad, Iraq

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EDUCATION:

1993 B.Sc Chemical Engineering, University of Technology, Iraq.

1996 M.Sc Chemical Engineering, Collage of Engineering, Al-Nahrain University, Iraq.

Thesis: *Modification and Characterization Of Platinum Supported Zeolite Catalysts*

2004 Ph.D Chemical Engineering, University of Technology, Iraq.

Thesis: *"Heat Convection and Performance in Bubble Column Reactors"*.

PRESENT AND PREVIOUS POSITIONS:

- Head of Chem. Eng. and Petroleum Refining Branch / University of Technology, Iraq (2021).
- Dean of Chem. Eng. Dept./ University of Technology, Baghdad/ Iraq (2018 -2019).
- Deputy Head of Chem. Eng. Dept./ University of Technology, Baghdad/ Iraq (2016-2018).
- Director of Nanotechnology Center University of Technology (2015-2016).
- Dean of Engineering College Massan University (2012-2013).
- Dean of Petroleum Technology / University of Technology (2009-2012)
- Member of Chemical Engineering Department Council/ University of Technology.
- Member of Iraqi Engineering Committee.
- Member of Renewable Energy Committee.
- Member of Iraqi Nanotechnology Committee.
- Member of Scientific Committee of Arabic Nanotechnology Group.
- Member of Iraqi Inventors Forum.

RESEARCH ACTIVITIES:

- 1- Transport Processes.
- 2- Multi-phase Reactors.
- 3- Nanofluids and Heat Transfer.
- 4- Nanotechnology Applications in Chemical Processes.
- 5- Catalysts and Nanocatalysts
- 6- Biochemical Reaction Engineering.
- 7- Renewable Energy and Fuels.
- 8- Applications of Petroleum and Gas Industry.
- 9- Environmental Treatment.
- 10- Process Modeling and Simulation.

TEACHING EXPERIENCE:

Undergraduate:-

1. Reaction Kinetics.
2. Biochemical Reaction Engineering.
3. Equipment design in Chemical Engineering.
4. Engineering Physics.
5. Engineering Thermodynamics.
5. Transportation and Storage of Petroleum and Fractions.

Postgraduates Courses:-

1. Advanced Reactors Design/ Ph.D Course
2. Nanotechnology /Ph.D Course.
3. Energy Conservation / Ph.D Course.
4. Energy Conservation / M.Sc Course.
5. Energy Conservation / Higher Diploma Course.
6. Nanotechnology Applications for Environmental Engineers / M.Sc Course.
7. Mass Transfer / M.Sc Course.
8. Catalyst Engineering/ M.Sc Course.

SUPERVISION OF POSTGRADUATE STUDENTS

Eight Ph.D. student in the area of nanotechnology applications in petroleum and gas sector.

Twelve MS.c. student in the area of petroleum industries and nanotechnology.

LIST OF PUBLICATIONS

- 1.** Jabir Shanshool and Khalid A. Sukkar “Modification and Characterization of Platinum Supported Y-Zeolite Catalyst ” Proceeding of Jordon International Chem. Eng. Conference III, Vol. 2, Sep., pp. 753-762 (1999).
- 2.** Jabir Shanshool and Khalid A. Sukkar “ Modification and Catalyst Study of Some Zeolite “Catalyst” Jornal of Al-Nahrian University, Vol. 4, No. 1, Dec., pp. 79-90 (2000).
- 3.** Khalid A. Sukkar and Hayam, M. Abdul-Raheem, Amel Th. Juber, and Jabir Sh. Jumaly, "Study of Catalysts Deactivation in Isomerization Process to Produce High Octane Gasoline", Iraqi Journal of Chem. and Petro. Eng., Vol.8, No.3, Sept., pp. 43-48 (2007).
- 4.** Majid S. Radhaa, Khalid A. Sukkar, Jamal Mane Ali, Zaidoon M. Shakoor, and Niran Manwel, " Hydrodynamics, Mass and Heat Transfer in Reactive Distillation", Al-Khwarizmi Eng. Journal, Vol.4, No.2, pp. 1-9 (2008).
- 5.** Zaidoon M. Shakoor and Khalid Ajmi Sukkar, " Dynamic Simulation of Semi-Batch Catalytic Distillation Used for Esterfication Reaction", Journal of Engineering and Technology, Vol.26, No.7, pp.777-796 (2008).
- 6.** Khalid A. Sukkar, Kadhem Muter Shibeab , Rana Abbas Azeez, and Niran Manoual, "Production of Biodiesel Fuel from Biological Sources", Uruk Journal, University of Al-Muthanna, Vol. 1, Sept. pp.67-77 (2008).
- 7.** Khalid A. Sukkar, "The Optimum Operating Parameters for the Production of Biodiesel Using Reactive Distillation Technology", Misan Journal of for Academic Studies, Misan University, Vol.14, No.7, pp. 1-14 (2009).
- 8.** Adawiya J. Haider, Khalid A. Sukkar, Azhar I.H. Hind J. “Mathmetical Modeling of CO Oxidation Reaction of Sealed-off CO₂ Laser on Supported Noble Metal Catalysts” Proceeding of 3rd Scientific Conference of the College of Science, University of Baghdad, March, pp. 2185-2195 (2009).

9. Adawiya J. Haider, Khaled Z. Yahya, Ali Jasim, Khalid A. Sukkar, and Duha S. Ahemad “Ag Doped Tin-Oxide Films by Pulsed Laser Deposition (PLD)” Proceeding of 16th Scientific Conference of College of Education, University of Al-Mustansiriyah, June, (2009).
10. Khalid A. Sukkar, Adawiya J. Haider, Duha S. Ahemad and Khaled Z. Yahya “Nanostructure Properties of Tin – Oxide on Sapphire Prepared by Pulsed Laser Deposition (PLD)” Proceeding of 1st Scientific Conference of Nanotechnology and Advanced Materials, University of Technology, Oct., Vol.1, pp-80, (2009).
11. Kadhem Muter Shibeab, Khalid A. Sukkar, Rana Abbas Azeez, Najat J. Salah, Mumtaz A. Zeblok, Niran Manoual, and Abir Samir, “A New Development in Biological Process for Wastewater Treatment to Produce Renewable Fuel, American Journal of Applied Sciences 7(10): 1400-1405, 2010.
12. Khalid A. Sukkar, Farah T. Jassm, Aswar A. Alwasiti, and Muayad M. Hasan, "The Use of Gas-to-Liquid Technology (GTL) to Produce Gasoline and Diesel Fuels", Journal of Engineering and Technology, Vol.31, No.3, pp.585-598(2013).
13. Khalid A. Sukkar, Shahrazad R. Raouf, and Ramzy S. Hamied, “Experimental and Analytical Investigation of Heavy Naphtha Catalytic Reforming Reactions with Bi-metallic Catalysts”, Journal of Engineering and Technology, (2010).
14. Zaidoon M. Shakoor, Khalid A. Sukkar, and Mohammed S. Baqer, " Reaction Kinetic of Acetic Acid and n-Butanol Esterification Catalyzed by Dowex 50”, Journal of Engineering and Technology, Vol. 29, No. 10 (2011).
15. Shahrazad R. Raouf, Khalid A. Sukkar and Ramzy S. Hamied, “Heavy Naphtha Reforming Reactions with Tri-metallic Catalysts, Experimental and analytical Investigation”, Journal of Engineering and Technology, Vol. 29, No. 10, pp.1917-1935 (2011).
16. Adawiya J. Haider, Khalid A. Sukkar, and Duha S. Ahmed “Catalysts Regeneration Using Laser Technique in Petroleum Industry” Journal of Engineering and Technology, Vol.31, No.4, pp.715-722 (2013).

- 17.** Khalid A. Sukkar, Shahrazad R. Raouf, and Ramzy S. Hamied, "Investigation of Iraqi Heavy Naphtha Catalytic Reforming Reactions Using Pt-Sn/Al₂O₃ and Pt-Ir/Al₂O₃ Catalysts", Journal of Engineering and Technology, Vol. 31, part A, No. 12, pp.2357-2380 (2013).
- 18.** Ramzy S. Hamied, Shahrazad R. Raouf, and Khalid A. Sukkar, "Investigation of Iraqi Heavy Naphtha Catalytic Reforming Reactions Using Pt-Sn/Al₂O₃ and Pt-Ir/Al₂O₃ Catalysts", Journal of Engineering and Technology, (2013).
- 19.** Khalid A. Sukkar and Hayam, M. Abdul-Raheem, and Layth S. Sabry, and Lattif A. Resym " New Development in Catalytic Reforming Process to Produce High Octane Gasoline", Second Iraq Oil and Gas Conference, Ministry of Oil, October, Baghdad (2013).
- 20.** Mohamed Ibrahim, Najat J. Saleh, Khalid A. Sukkar, and Mumtaz A. Yousif "Design and Construction of a Pilot Plant for Production of Activated Carbon Using Iraqi Source Raw Material" Iraqi, Research and Development Initiative (IRDI), ASTF, Vol.1, 2014.
- 21.** Khalid A. Sukkar, Suaad M. Kadhim, and Ahmed S. Falih, "Manufacturing of Bi-functional Nano-sensor of Nobel Metal for Hydrocarbon Gas Detection in Petroleum Sector Using Pulse Laser Deposition Technique" Journal of Engineering and Technology, Vol. 34, part A, (2017).
- 22.** Mohammed J. Kadhim, Khalid A. Sukkar, Ahmed S. Abbas and Nareen H. Obaeed, "Investigation Nano coating for Corrosion Protection of Petroleum Pipeline Steel Type A106 Grade B; Theoretical and Practical Study in Iraqi Petroleum Sector", Journal of Engineering and Technology, Vol. 34, part A, (2017).
- 23.** Amin D. Thamir, Khalid A. Sukkar, Ali A. Atti, "Improve the Process of Enhancing Oil Recovery (EOR) by Applying Nanomagnetic Cobalt Ferrite Nanoparticles", Journal of Engineering and Technology, Vol. 34, part A, (2017).

24. S. M. Kadhim, K. A. Sukkar, N. H. Jabbar, "Optical Fiber Sensor with Ag-NPs Cladding for Temperature Sensing", *Inter. J. of Eng. Sci. & Research Tech.*, 7 (6), June, pp. 371-375, (2018).
25. Kareem T. Shnaihej, Lamyia J. Basri, Hasan N. Mohesn, Khalid A. Sukkar, "Treatment of Industrial Water by Nanotechnology", *Journal of Petroleum Research & Studies (JPR&S)*, No.19, pp-E 165-186, (2019).
26. Adnan A. Ateeq, Khalid A. Sukkar, Murtadha AbdAl-Huassein, "Characterization of Nanosilica and Comparing Its Effect on Crude Oils and Diesel Fuel", *Journal of Natural Science*, Vol.9, No.4, pp.62-77 (2019).
27. Mohammed J. Kadhim, Khalid A. Sukkar, Ahmed S. Abbas "Investigation of Thermal Conductivity for CuNps Deposited on 316L Stainless Steel By PVD as a A solar Absorber Surface", *Fourth International Iron & Steel Symposium*, (2019).
28. Mohammed J. Kadhim, Khalid A. Sukkar, Ahmed S. Abbas, "Investigation on the Properties of CuNps Prepared by PVD on Aluminum for the A solar Collector", *Journal of Engineering and Technology*, (2019).
29. Mohammed J. Kadhim, Khalid A. Sukkar, Ahmed S. Abbas, Electrodepositing of Multi-Layer Ni-Ag Coated by Copper Nanoparticles for Solar Absorber *Journal of Al-Kwarrzmi of Engineering*, Vol. 15, No. 3, P.P. 70- 83 (2019).
30. Mohammed J. Kadhim, Khalid A. Sukkar, Ahmed S. Abbas, "Copper Thin film Deposited by PVD on Aluminum AA4015 Substrate for Thermal Solar Application", *2nd International Conference on Sustainable Engineering Techniques* IOP, *Material Science and Engineering*, (2019).
31. Thulfiqar N. Jaber¹, Khalid A. Sukkar, Abullhassan A. Karamalluh, Specifications of Heavy Diesel Lubricating Oil Improved by MWCNTs and CuO as Nano-additives, *IOP Conf. Series: Materials Science and Engineering* 579 (2019) 012014.
32. Mohammed J. Kadhim, Khalid A. Sukkar, Ahmed S. Abbas, "Characterization of High Thermal Conductivity Nanocopper Prepared by Thermal Evaporation

Technique on Copper as a Solar Absorber", The 6nd International Conference on Nanotechnology, Advanced Materials and its Applications" ICNAMA, (2019).

- 33.** Khalid A. Sukkar, S.A. Duhab, Amal A. Hussein and R.M. Mohammad, Synthesis and Characterization Hybrid Materials (TiO₂/MWCNTS) by Chemical Method and Evaluating Antibacterial Activity against Common Microbial, ACTA PHYSICA POLONICA A, Vol. 135 , No. 4 , 588-592 (2019).
- 34.** Hussein Y. Mahmood, Khalid A. Sukkar, Wasan K. Mikhelf, Corrosion Protect of Brass Tubes Heat Exchanger by using CuO Nanocoating with Thermal Pyrolysis Techniques, JOURNAL OF MECHANICS OF CONTINUA AND MATHEMATICAL SCIENCES, Vol.-14, No.-4, pp 281-291(2019).
- 35.** Khalid A. Sukkar, Hussein Y. Mahmood, Wasan K. Mikhelf, Improve Heat Transfer Performance of Brass Tubes Heat Exchanger Coated by Nanoparticles, International Review of Mechanical Engineering (IREME), Vol. 13, No. 10, pp.597-607 (2019).
- 36.** Khalid A. Sukkar, Ahmed S. Abbas, Mohammed J. Kadhim, "Optimization Thermal Conductivity of Copper Thin Film Deposited on Different Substrates by RSM", Materials Express, (Acceptance Letter, Under Publishing).
- 37.** Naser Korde, Sami A. Sami, Khalid A. Sukkar, "Nanosilicon powder extraction as a sustainable source (from Iraqi rice husks) by hydrothermal process", AIP Conference Proceedings (2020).
- 38.** Sami A. Ajeel, Khalid A. Sukkar, Naser Korde, "Extraction of high purity amorphous silica from rice husk by chemical process", IOP Conference Series Materials Science and Engineering, (2020).
- 39.** Zaidoon M. Shakor, Adnan A. Abdul Razak, Khalid A. Sukkar, Detailed Reaction Kinetic Model of Heavy Naphtha Reforming, Arabian Journal for Science and Engineering, 45, pages 7361–7370 (2020).

40. Khalid A. Sukkar, Firas K. Al-Zuhairi, Eveleen A. Dawood, "Evaluating the influence of temperature and flow rate on biogas production from wood waste via a packed-bed bioreactor", *Arabian Journal for Science and Engineering* (2020).
41. Adawiya J. Haide, r, Khalid A. Sukkar, Alyaa H. Abdalsalam, Adnan F. Ali, Salah H. Jaber, Thaeer T. Abdul Ridha, Enhancement of the air quality and heat transfer rate of an air-conditioning system using a hybrid polypropylene nanofilter, *Process Safety and Environmental Protection*, Volume 149, Pages 56-66 (2021).
42. Khalid A. Sukkar, Evaluation of transport processes in a catalytic reforming reactor with high performance nanocatalysts, *IOP Conference Series Materials Science and Engineering*, (2021).
43. Sami A. Ajeel, Khalid A. Sukkar, Naser Korde, New magnesio-thermal reduction technique to produce high purity crystalline nanosilicon via semi-batch reactor, *Materials Today: Proceedings*, (2021).
44. Zainab Y. Shanian, Mohammad F. Abid, Khalid A. Sukkar, Photodegradation of mefenamic acid from wastewater in a continuous flow solar falling film reactor, *Desalination and Water Treatment*, 210, 22–30 (2021).
45. Zainab Y. Shanian, Jamal M. Ali, Khalid A. Sukkar, May A. Safer, Mohammad F. Abid,, A Computational Fluid Dynamics Study of Liquid–Solid Nano-fluid Flow in Horizontal Pipe, *Arabian Journal for Science and Engineering* (2021).