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ACADEMIC CREDENTIALS		
PhD.	Chemical Engineering	Universiti Teknologi PETRONAS (UTP), Malaysia
MSc.	Chemical Engineering	Institute of Chemical Engineering & Technology, University of Punjab, Lahore, Pakistan
BSc.	Chemical Engineering	COMSATS University Islamabad, Lahore campus, Punjab, Pakistan

EDUCATIONAL BACKGROUND		
2015-2020	PhD. in Chemical Engineering (by Research) Universiti Teknologi PETRONAS, Malaysia	Thesis Title ‘Evaluating Growth of Gold Nanoparticles formed using Phytochemical components of <i>Elaeis Guineensis</i> Leaves extract’
2011-2013	MSc. in Chemical Engineering (by Course work & Research) Institute of Chemical Engineering & Technology, University of Punjab, Lahore, Pakistan (CGPA:3.69)	Thesis Title ‘Wastewater Treatment through Electrochemical Oxidation’
2007- 2011	BSc. in Chemical Engineering COMSATS University Islamabad, Lahore campus, Punjab, Pakistan (CGPA: 3.20)	Dissertation Title ‘Production of 15 Million Gallons/Year of Ethanol from Corn Cobs’

PROFESSIONAL EXPERIENCE	
Assistant Professor Department of Chemical Engineering, Khwaja Fareed University of Engineering, and Information Technology (KFUEIT)	23 rd June 2021-Present
Research Associate College of Natural and Health Sciences, Zayed University, Abu Dhabi, United Arab Emirates	15 th November 2018-15 th March 2020
Graduate Research Assistant Chemical Engineering Department, UTP, Malaysia	January 2015 – March 2020
Teaching Assistantship: Courses and Laboratory demonstration instructed.	
<ol style="list-style-type: none"> 1. Chemical Engineering Lab II 2. Plant and Design Project 3. Analytical Chemistry 	Sept 2018 – Dec 2018 Jan 2017 – Aug 2017 Jan 2016 – Aug 2016
Quality Assurance Manager at Third Party, Unilever Pakistan Food Limited, Pakistan	15 th July 2012- 30 th October 2014
Reviewer for Journal of Cluster Science (Springer), Saudi Pharmaceutical Journal (Elsevier)	January 2020-Present m

RESEARCH EXPERIENCE

EDUCATIONAL RESEARCH PROJECTS

1. Research work on the Role of Phytochemicals in *Elaeis guineensis* (Oil Palm) leaf extract mediated synthesis of stabilized gold nanoparticles at Universiti Teknologi PETRONAS, Malaysia (Jan 2015 – Dec 2019)
2. Research work titled Green Nanotechnology for Environmental Remediation at Universiti Teknologi PETRONAS, Malaysia (November 2018- to date)
3. Research work on Synthesis, characterization of Deep Eutectic Solvents and their applications for removal of CO₂ at Universiti Teknologi PETRONAS, Malaysia (Sept 2019 – Jan 2020)

FUTURE RESEARCH PROJECTS

1. Capturing and oxidative conversion of hydrogen sulphide using COSMO-RS predicted deep eutectic solvents (YUTP).
2. Exploring absorption potential of deep eutectic solvents for carbon dioxide solubility (Collaborative Research Programme (CRP)).
3. Investigation of toxicity of deep eutectic solvents and their application as surface functionalization agents for metal oxide nanoparticles for the adsorption of CO₂ and removal heavy metals (INTERNATIONAL COLLABORATION FUND (ICF)).
4. Exploring dual role of choline chloride and phosphonium based deep eutectic solvents in phytosynthesis of gold nanoparticles for efficient extraction of phytochemicals and enhancement of the colloidal stability. (Zayed University, UAE).

JOURNAL PUBLICATIONS

1. **Tausif Ahmad**, Jibrán Iqbal, Mohamad Azmi Bustam, Muhammad Babar, Muhammad Bilal Tahir, Muhammad Sagir, Muhammad Irfan, Hafiz Muhammad Anwaar Asghar, Afaq Hassan, Asim Riaz, Lai Fatt Chuah, Awais Bokhari, Muhammad Mubashir, Pau Loke Show, “Performance evaluation of phosphonium based deep eutectic solvents coated cerium oxide nanoparticles for CO₂ capture” *Journal of Environmental research* (IF=8.431), Volume 222, 1 April 2023, 115314.
2. Areej Javed, Afaq Hassan, Muhammad Babar, Umair Azhar, Asim Riaz, Rana Mujahid, **Tausif Ahmad**, Muhammad Mubashir, Hooi Ren Lim, Pau Loke Show, Kuan Shiong Khoo, “A Comparison of the Exergy Efficiencies of Various Heat-Integrated Distillation Columns” *Journal of Energies* (IF=3.252) 2022, 15(18), 6498; <https://doi.org/10.3390/en15186498>
3. Muhammad Irfan, Amir Shafeeq, Umair Siddiq, Farzana Bashir, **Tausif Ahmad**, Muhammad Athar, Muhammad Tahir Butt, Sami Ullah, Ahmad Mukhtar, Mohamed Hussien, Su Shiung Lam, “A mechanistic approach for toxicity and risk assessment of heavy metals, hydroquinone and microorganisms in cosmetic creams” *Journal of Hazardous Materials* (IF=14.224), Volume 433, 5 July 2022, 128806.
4. Muhammad Irfan, Amir Shafeeq, Tahir Saleem Nasir, Farzana Bashir, **Tausif Ahmad**, Naeem Abbas, Muhammad Tahir Butt, Farah Deebea, “Evaluation of Enhancement Factor for Removal of Heavy Metal Ions from Water through Adsorption by Non-Activated and Activated Carbon Prepared from Rice Husk”, *Pakistan Journal of Scientific and Industrial Research Series a: Physical Sciences* volume 64,
5. **Tausif Ahmad**, Jibrán Iqbal, Mohamad Azmi Bustam, Muhammad Irfan, Hafiz Muhammad Anwaar

Asghar, A Critical Review on Phytosynthesis of Gold Nanoparticles; Issues, Challenges and Future Perspectives, [Journal of Cleaner Production](#), (Available Online), Volume 309, 1 August 2021, (IF=9.297)

6. **Tausif Ahmad**, Mohamad Azmi Bustam, Humbul Suleman, Muhammad Irfan, Jibrán Iqbal, Hafiz Muhammad Anwaar Asghar, “Quantitative estimation of biocapped surface chemistry driven interparticle interactions and growth kinetics of gold nanoparticles” (Available online, 25 January 2021), DOI: [10.1007/s10876-021-01999-5](https://doi.org/10.1007/s10876-021-01999-5), [Journal of Cluster Science](#), (IF= 3.061),
7. Hafiz Muhammad Anwaar Asghar, **Tausif Ahmad**, Faisal Raza1, Syed Nadir Hussain, Hamid Sattar, Tahir Ahmad, “An Efficient Approach for Separation of the Acetate from Aqueous Solution using a Novel Surface Modified Adsorbent and its Electrochemical Regeneration” DOI: <https://doi.org/10.1080/01496395.2020.1862232>, [Journal of Separation Science and Technology](#), (Accepted), (IF= 2.475).
8. Muhammad Irfan, Muhammad Moniruzzaman, **Tausif Ahmad**, Mohamad FakhruRidhwan Samsudin, Farzana Bashir, Muhammad Tahir Butt, “Identifying the Role of Process Conditions and Bio-reducing Agents for Controllable Synthesis of Stable Gold Nanoparticles and Insight Detail of Reaction Mechanism” DOI: <https://doi.org/10.1080/24701556.2021.1897614>, [Journal of Inorganic and Nano-Metal Chemistry](#), (Accepted), (IF= 1.716).
9. Farzana Bashir, Muhammad Irfan, **Tausif Ahmad**, Javed Iqbal, Muhammad Tahir Butt, Yumna Sadef, Misbah Umbreen, Irfan Ahmed Shaikh, Muhammad Moniruzzaman, “Efficient Utilization of Low Cost Agro Materials for Incorporation of Copper Nanoparticles to Scrutinize Their Antibacterial Properties in Drinking Water” (Available online, 04 November 2020), [Journal of Environmental Technology & Innovation](#), (IF= 5.263)
10. Muhammad Zulfiqar, Suján Chowdhury, Mohammad FakhruRidhwan Samsudin, Ahmer Ali Siyal, Abdul Aziz Omar, **Tausif Ahmad**, Suriati Sufian, “Effect of organic solvents on the growth of TiO₂ nanotubes: An insight into photocatalytic degradation and adsorption studies” [Journal of Water Process Engineering](#), Volume 37, October 2020, 101491, (IF= 5.485)
11. Ahmad Mukhtar, Sami Ullah, Abdullah G Al-Sehemi, Mohammed A. Assiri, Sidra Saqib, Rabia Amen, Muhammad Babar, Mohamad Azmi Bustam, **Tausif Ahmad**, “Synthesis and Stability of Metal-Organic Frameworks (MOFs) Photocatalysts for the Removal of Persistent of Organic Pollutants (POPs) from Wastewater” [Current Analytical Chemistry](#), DOI: [10.2174/1573411016999200507121320](https://doi.org/10.2174/1573411016999200507121320), (Available online), (IF= 1.892)
12. **Tausif Ahmad**, Jibrán Iqbal, Mohamad Azmi Bustam, Muhammad Zulfiqar, Nawshad Muhammad, Bethanie Mohamed Al Hajeri, Sami Ullah, “Phytosynthesis Cerium Oxide Nanoparticles and Investigation of their Photocatalytic Potential for Degradation of Phenol under Visible Light” [Journal of Molecular Structure](#), Volume 1217, 5 October 2020, 128292, (IF= 3.196).
13. **Tausif Ahmad**, Mohamad Azmi Bustam, Muhammad Zulfiqar, Muhammad Moniruzzaman, Alamin Idris, Jibrán Iqbal, Hafiz Muhammad Anwaar Asghar, Sami Ullah, “Controllable phytosynthesis of gold nanoparticles and investigation of their size and morphology-dependent photocatalytic activity under visible light” [Journal of Photochemistry and Photobiology A: Chemistry](#), Volume 392, 1 April 2020, 112429, (IF= 4.291).
14. Sami Ullah, Mohamad Azmi Bustam, Abdullah G. Al-Sehemi, Mohammed Ali Assiri, Girma Gonfa, Ahmad Mukhtar Muhammad Ayoub, **Tausif Ahmad**, “Experimental investigations on the regeneration of desulfurized 1-butyl-3-methylimidazolium tetrachloroferrate [Bmim][FeCl₄] and 1-butyl-3-methylimidazolium thiocyanate [Bmim][SCN] ionic liquids: A raman spectroscopic study” (Available online, 04 November 2019), [Journal of Raman Spectroscopy](#), (IF= 3.133).
15. **Tausif Ahmad**, Mohamad Azmi Bustam, Muhammad Irfan, Muhammad Moniruzzaman, Mohamad FakhruRidhwan Samsudin, Hafiz Muhammad Anwaar Asghar, Nawshad Muhammad, Jibrán Iqbal,

Sekhar Bhattacharjee, "Effect of gold and iron nanoparticles on photocatalytic behaviour of titanium dioxide towards 1-butyl-3-methylimidazolium chloride ionic liquid" [Journal of Molecular Liquids, Volume 291, 1 October 2019, 111277, \(IF= 6.165\).](#)

16. **Tausif Ahmad**, Mohamad Azmi Bustam, Muhammad Irfan, Muhammad Moniruzzaman, Hafiz Muhammad Anwaar Asghar, Sekhar Bhattacharjee, "Mechanistic investigation of phytochemicals involved in green synthesis of gold nanoparticles using aqueous *Elaeis guineensis* leaves extract: Role of phenolic compounds and flavonoids" [Journal of Biotechnology and Applied Biochemistry, Volume 66, Issue 4, July/August 2019, Pages 698-708, \(IF= 2.431\).](#)
17. **Tausif Ahmad**, Mohamad Azmi Bustam, Muhammad Irfan, Muhammad Moniruzzaman, Hafiz Muhammad Anwaar Asghar, Sekhar Bhattacharjee, "Quantitative growth evolution of gold nanoparticles synthesized using aqueous *Elaeis guineensis* (oil palm) leaves extract" [Journal of Materials Chemistry and Physics, Volume 220, 1 December 2018, Pages 240-248, \(IF= 4.094\).](#)
18. Muhammad Irfan, Muhammad Moniruzzaman, **Tausif Ahmad**, Ola Yahia Osman, Pradip Chandra Mandal, Sekhar Bhattacharjee, Murid Hussain, "Stability, interparticle interactions and catalytic performance of gold nanoparticles synthesized through ionic liquid mediated oil palm leaves extract" [Journal of Environmental Chemical Engineering, Volume 6, Issue 4, August 2018, Pages 5024-5031, \(IF= 5.909\).](#)
19. **Tausif Ahmad**, Mohamad Azmi Bustam, Muhammad Irfan, Muhammad Moniruzzaman, Hafiz Muhammad Anwaar Asghar, Sekhar Bhattacharjee, "Green synthesis of stabilized spherical shaped gold nanoparticles using novel aqueous *Elaeis guineensis* (oil palm) leaves extract" [Journal of Molecular Structure, Volume 1159, 5 May 2018, Pages 167-173, \(IF= 3.196\).](#)
20. **Tausif Ahmad**, Mohamad Azmi Bustam, Muhammad Irfan, Muhammad Moniruzzaman, Hafiz Muhammad Anwaar Asghar, Sekhar Bhattacharjee, "Effect of volume of gold chloroauric acid on size, shape and stability of biosynthesized AuNPs using aqueous *Elaeis guineensis* (oil palm) leaves extract" [International Journal of Automotive and Mechanical Engineering, \[Scopus/ISI Indexed\]](#)
21. Muhammad Irfan, Muhammad Moniruzzaman, **Tausif Ahmad**, Pradip Chandra Mandal, Sekhar Bhattacharjee, Bawadi Abdullah, "Ionic liquid based extraction of flavonoids from *Elaeis guineensis* leaves and their applications for gold nanoparticles synthesis" [Journal of Molecular Liquids, Volume 241, September 2017, Pages 270-278, \(IF= 6.165\)](#)
22. Muhammad Irfan, Muhammad Moniruzzaman, **Tausif Ahmad**, Pradip Chandra Mandal, Sekhar Bhattacharjee, Bawadi Abdullah, "Growth kinetic study of ionic liquid mediated synthesis of gold nanoparticles using *Elaeis guineensis* (oil palm) kernels extract under microwave irradiation" [Arabian Journal of Chemistry, Volume 13, Issue 1, January 2020, Pages 620-631, \(IF= 5.165\).](#)
23. Muhammad Irfan, **Tausif Ahmad**, Muhammad Moniruzzaman, Sekhar Bhattacharjee, Bawadi Abdullah, "Size and stability modulation of ionic liquid functionalized gold nanoparticles synthesized using *Elaeis guineensis* (oil palm) kernel extract" [Arabian Journal of Chemistry, Volume 13, Issue 1, January 2020, Pages 75-85, \(IF= 5.165\).](#)
24. Anirban Chakraborty, **Tausif Ahmad**, Bawadi Abdullah, Sekhar Bhattacharjee, "Process Engineering Studies on Synthesis of Gold Nanoparticles by Turkevitch Method" [Journal of Chemical Engineering Transactions, Volume 45, Pages 1939-1944, 2015, \[Scopus/ISI Indexed\]](#)
25. Hafiz Muhammad Anwaar Asghar, **Tausif Ahmad**, Syed Nadir Hussain and Hamed Sattar, "Electrochemical Oxidation of Methylene Blue in Aqueous Solution" [International Journal of Chemical Engineering and Applications, Vol. 6, No. 5, October 2015.](#)

CONFERENCE PROCEEDINGS

1. Muhammad Irfan, **Tausif Ahmad**, Muhammad Moniruzzaman, Bawadi Abdullah, "Ionic liquid functionalized synthesis of gold nanoparticles in response to *Elaeis Guineensis* (oil palm) leaves

amount” [AIP Conference Proceedings, Volume 1963, Issue 1, Pages 020001, \(2018\).](#)

2. Muhammad Irfan, **Tausif Ahmad**, Muhammad Moniruzzaman, Bawadi Abdullah, “Effect of pH on ionic liquid mediated synthesis of gold nanoparticle using *Elaeis guineensis* (palm oil) kernel extract” [IOP Conference Series: Materials Science and Engineering, Volume 204, Issue 1, Pages 012002, 2017](#)
3. Muhammad Irfan, **Tausif Ahmad**, Muhammad Moniruzzaman, Bawadi Abdullah, Sekhar Bhattacharjee, “Ionic Liquid Mediated Biosynthesis of Gold Nanoparticles Using *Elaeis Guineensis* (Oil Palm) Leaves Extract” [Procedia Engineering, Volume 148, Pages 568-572, 2016.](#)
4. **Tausif Ahmad**, Muhammad Irfan, Sekhar Bhattacharjee, “Parametric Study on Gold Nanoparticle Synthesis Using Aqueous *Elaeis Guineensis* (Oil palm) Leaf Extract: Effect of Precursor Concentration”, [Procedia Engineering, Volume 148, 1396 – 1401, 2016.](#)
5. **Tausif Ahmad**, Muhammad Irfan, Mohamad Azmi Bustam, Sekhar Bhattacharjee, “Effect of Reaction Time on Green Synthesis of Gold Nanoparticles by Using Aqueous Extract of *Elaeis Guineensis* (Oil Palm Leaves)” [Procedia Engineering, Volume 148, 2016, Pages 467-472, 2016.](#)

CONFERENCE PRESENTATIONS

1. **Tausif Ahmad**, Muhammad Irfan, Sekhar Bhattacharjee, “Parametric Study on Gold Nanoparticle Synthesis Using Aqueous *Elaeis Guineensis* (Oil palm) Leaf Extract: Effect of Precursor Concentration” Ahmad T., Irfan M., Bhattacharjee S., [PROCESS ENGINEERING AND ADVANCED MATERIALS. INTERNATIONAL CONFERENCE, Kuala Lumpur, Malaysia, \(ICPEAM 2016\).](#)
2. **Tausif Ahmad**, Muhammad Irfan, Mohamad Azmi Bustam, Sekhar Bhattacharjee, “Effect of Reaction Time on Green Synthesis of Gold Nanoparticles by Using Aqueous Extract of *Elaeis Guineensis* (Oil Palm Leaves)” [PROCESS ENGINEERING AND ADVANCED MATERIALS. INTERNATIONAL CONFERENCE, Kuala Lumpur, Malaysia, \(ICPEAM 2016\).](#)
3. **Tausif Ahmad**, Mohamad Azmi Bustam, Muhammad Irfan, Muhammad Moniruzzaman, Hafiz Muhammad Anwaar Asghar, Sekhar Bhattacharjee, “Effect of volume of gold chloroauric acid on size, shape and stability of biosynthesized AuNPs using aqueous *Elaeis guineensis* (oil palm) leaves extract” [International UNIMAS STEM 11th Engineering Conference 2018 \(EnCon2018\).](#)

COMPUTATIONAL & ANALYTICAL SKILLS	
Computer Software	<ul style="list-style-type: none"> • Zeta potential
<ul style="list-style-type: none"> • Microsoft office, Visio 	<ul style="list-style-type: none"> • High Pressure Column Chromatography (HPLC)
<ul style="list-style-type: none"> • Origin Pro 	<ul style="list-style-type: none"> • Refractometer
<ul style="list-style-type: none"> • Stat-Ease Design Expert 	<ul style="list-style-type: none"> • Direct Light Scattering (DLS) Particle Size Analyzer
<ul style="list-style-type: none"> • Xerept highscore plus 5.0. 	<ul style="list-style-type: none"> • <i>UV-vis</i> spectrophotometer
<ul style="list-style-type: none"> • Avantage 4.5 software 	<ul style="list-style-type: none"> • Raman Spectroscopy
Analytical Instruments & Equipments	<ul style="list-style-type: none"> • Gas Absorption/adsorption and Permeability Unit
Inductive Coupled Plasma (ICP)	<ul style="list-style-type: none"> • Thermogravimetric Analyzer (TGA)
Gas Chromatography (GC)	<ul style="list-style-type: none"> • Fourier Transform Infrared Spectroscopy

REFERENCES
<ol style="list-style-type: none"> 1. Professor Dr. Mahmood Saleem Vice Chancellor Mir Chakar khan Rind University of Technology, DGKHAN vc@www.mcut.edu.pk,
<ol style="list-style-type: none"> 2. Associate Professor Dr. Mohamad Azmi Bustam Head, Centre of Research in Ionic Liquids (CORIL)

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