


Curriculum Vitae

Personal Details



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- Research Area of Interest:**
- 1) Polymers
 - 2) Composites Materials
 - 3) Nanocomposites
 - 4) Nanomaterials
 - 5) Renewable Energy

1. Educational Background

- 2002-2005 B.Eng. Equipment's & Machines Engineering, Technical College Almusaiab, Fundamental of Technical education, Ministry of Higher Education, Iraq.
- 2011-2012 M.Eng. Mechanical Engineering, University Tenaga Nasional (UNITEN), Kajang, Selangor, Malaysia.
- 2013-2017 Ph.D. Mechanical & Materials Engineering, University Kebangsaan Malaysia (UKM), Bangi, Selangor, Malaysia.

2. Academic Work and Occupations

From 2005 to Now: Lecturer in Al-Mussaib Technical College/Al-Furat Al-Awsat Technical University/Ministry of Higher Education & Scientific Research/Babylon Province–Al-Mussiab City, Iraq

- **Administrator Lab**

1. Mechanical Drawing Lab.
2. Engineering Drawing Lab.
3. Strength of Materials Lab.
4. Internal Composition Engine Lab.
5. Hydraulic Machines Lab.
6. Mathematical (Tutorial)
7. Computer Lab (Software, Hardware and Programs)

- **Lecture**

1. Mathematics 1
2. Mathematics 2
3. Engineering Mechanics
4. Strength of Materials
5. Computer Applications

3. Training Courses, Seminars and Development Activities

- “Journal Publication Workshop”. 9th December 2014. Malaysia.
- “Complex Photo induced Nonlinear Optical Properties of the Nanocomposites” & “New Nanocomposite Optoelectronic Materials – The Use of Laser Treatment to Modify Their Properties”. 28th May 2014. Malaysia.
- “Autodesk Simulation Moldflow Insight Product”. 24th January 2014. Malaysia.
- “Academic Writing Skills”. 9th February 2014. Malaysia.
- “Advanced Research Methodology Course”. 12th December 2013. Malaysia.

- “Optimization and Taguchi System (MTS) for Decision Making. 20th October 2015. Malaysia.
- “Powder Metallurgy Seminar 2014” Organized by Precision Engineering Research Group and Malaysia Powder Metallurgy & Particular Materials Association (MPM²A). 28th January 2014. Malaysia.
- “Surface Metrology for Research and Industry”. 26 – 27 June 2012. Malaysia.
- “Speed control of different types of motor using pole”. 2 – 6 June 2008. Iraq.
- “Maintenance of Pump”. 23 – 27 September 2007. Iraq.
- “Agricultural mechanization processes”. 11 – 15 November 2007. Iraq.
- “Advanced Internet”. 26 – 5 May 2006. Iraq.
- “Maintenance Desktop Computer”. 3 – 10 March 2007. Iraq.
- “Training Techniques”. 23 – 30 March 2006. Iraq.

4. Computer Skills

- I have experience in Microsoft Excel Program.
- I have experience in Microsoft Power Point Program.
- I have experience in Microsoft Word Program.
- I have experience in Design of Experiment Program.
- I have experience in AutoCAD and statistic Program.

5. Membership in Professional Societies

- Member of the syndicate of Iraq engineers since 2005.
- Member of editorial team in insight – mechanical and materials engineering journal.
- Member of technical program committees of many international conferences in the field of engineering.
- Reviewer for many international conferences in mechanical and materials engineering and international journals with high quality.

6. Manuscripts Review

1. Chemical and Electrochemical Studies of Corrosion Inhibition of Zinc in KOH Medium using Cashew Extract as Inhibitor. Bulgarian Chemical Communications. *Bulgarian Chemical Society*. May 14, 2019.
2. Enhanced fracture toughness of three-dimensional Graphene-Hydroxyapatite nanocomposites by employing the Taguchi method. *Composites Part B. Elsevier*. June 18, 2019.
3. Study on Crack Initiation and Propagation of New Corrosion Inhibitor During Stress Corrosion of Aluminum Alloy. *Journal of Spectroscopy. Hindawi*. January 1, 2020.
4. Performance evaluation of a linear parabolic trough photovoltaic thermal collector. *International Journal of Automotive and Mechanical Engineering. University Malaysia Pahang*. March 14, 2019.

5. ICDEMM A Comparison Study of Closed Loop Heat Pump Dryer and Direct Solar Dryer System for Banana Drying. *Journal of Automotive and Mechanical Engineering. University Malaysia Pahang*. September 19, 2019.
6. Introduction of Wood-Based Bio-Crude as A Sustainable Modifier for Nano-Composites Containing Halloysite-Clay. *Industrial & Engineering Chemistry Research. American Chemical Society*. March 15, 2019.
7. Fuzzy logic model for estimation of mechanical properties of epoxy/GnPs/XNBR nanocomposites. *Journal of Engineered Fibers and Fabrics. SAGE*. December 10, 2019.
8. Tribological and Mechanical Properties of Polyamide11/Halloysite Nanotubes Nanocomposites. *Journal of Polymer Engineering. DE GRUYTER*. January 1, 2018.
9. Experimental and theoretical study on corrosion inhibition of new synthesized menthone derivatives (Menthopyrazole compounds) for mild steel in 1 M HCl solution. *Mediterranean Journal of Chemistry. Mediterranean Journal of Chemistry*. December 11, 2019.
10. Effect of Santolina pectinata (Lag.) Essential Oil to protect against the corrosion of Mild steel in 1.0 M HCl: Experimental and quantum chemical studies. *Mediterranean Journal of Chemistry. Mediterranean Journal of Chemistry*. February 22, 2020.
11. Halloysite-reinforced thermoplastic polyurethane nanocomposites: Physico-mechanical, rheological, and thermal investigation. *Polymer Composites. Wiley-Blackwell*. January 7, 2020.
12. Protection of corrosion rate on aluminium metal in acidic media by unsubstituted and 4-tetranitro substituted nickel (II) phthalocyanine inhibitors via electrochemical studies for hydrogen fuel cell. *Results in Physics. Elsevier*. March 19, 2018.
13. Extended electric power sources. *Results in Physics. Elsevier*. April 8, 2018.
14. Enhancing morphology and compression properties of halloysite reinforced polyurethane nanocomposites using injection-moulding technique. *Results in Physics. Elsevier*. May 31, 2019.

7. *Books, Conferences and Articles Publications (2012 – 2020)*

➤ **BOOKS**

1. **Tayser Sumer Gaaz**, M.N.M. Ansari, Ahmed A. Al-Amiery. **2015**. *View on Materials Composites*. Lap Lambert Academic Publishing. Germany.
2. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Ahmed A. Al-Amiery. **2015**. *Synthesis of Halloysite Nanotubes Nanocomposites: An Overview*. Lap Lambert Academic Publishing. Germany.

➤ **CONFERENCES**

1. **Tayser Sumer Gaaz**, M.N.M. Ansari, Robert A. Shanks, Ing Kong. **2012**. *Mechanical Studies on Halloysite Nanotube (HNT)/Polyurethane (PU) Nano-composites. ICCE*. 20 July 22-28. Beijing. China.
2. **Tayser Sumer Gaaz**, M.N.M. Ansari, Robert A. Shanks, Ing Kong. **2012**. *Mechanical and dynamic visco-elastic properties of halloysite nanotube (HNT)-polyurethane (PU)*

- composites. *Proceedings National Graduate Conference*. University Tenaga Nasional. Putrajaya Campus. 8-10 November. Malaysia.
3. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Jaafar Sahari, M.N.M. Ansari. **2013**. Review on the Properties of Halloysite Nanotube/Polyurethane and Their Biomedical Applications. *Malaysia Polymer International Conference*. 25–26 September. UKM. Malaysia.
 4. **Tayser Sumer Gaaz**, M.N.M. Ansari, Robert A. Shanks, Ing Kong. **2013**. Thermo-Mechanical Properties of Polyurethane–Halloysite Nanocomposites. *International Conference on Advancements in Polymeric Materials*. 1–3 March. CIPET Lucknow. India.
 5. **Tayser Sumer Gaaz**, M.N.M. Ansari, Robert A. Shanks, Ing Khong. **2014**. Mechanical properties of polyurethane (PU)-starch biocomposites. *International Conference on Advancements in Polymeric Materials*. 14-16 February. Bhuwaneswar. India.
 6. **Tayser Sumer Gaaz**, M.N.M. Ansari, Robert A. Shanks. **2015**. Thermal Stability of Starch–Polyurethane nanocomposites. *International Conference on Science, Technology, Engineering and Management*. 11 February. Kuala Lumpur. Malaysia.
 7. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Majid Niaz Akhtar, Muhammad Rafi Raza. **2015**. Processing and Characterization of Thermoplastic Polyurethane-Halloysite Nanotubes Nanocomposites through Injection Moulding. *Nanotechnology and Bioresource Technology*. 28–29 March. UKM. Malaysia.
 8. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Jaafar Sahari. **2015**. Mechanical and physical properties of injection molded halloysite nanotubes-thermoplastic polyurethane nanocomposites. *Procedia-Social and Behavioral Sciences*. Istanbul University. Turkey.
 9. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Majid Niaz Akhtar, Muhammad Rafi Raza. **2015**. Morphology and tensile properties of thermoplastic polyurethane–Halloysite nanotube nanocomposites. *3rd International Conference on Mechanical Engineering Research*. 18–19 August. Pahang. Malaysia.
 10. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Abdul Amir H. Kadhum. **2016**. Influence of acid chemical treatment on the tensile properties of halloysite nanotubes reinforced thermoplastic polyurethane composite. *Advanced Processes and Systems in Manufacturing an International Conference*. 28-30 August. Kuala Lumpur. Malaysia.
 11. Ali Assim Al-Obaidi, Dalya Hamzah Mussa, **Tayser Sumer Gaaz**. **2018**. Mixed Convective Nanofluids Laminar Flow over a Vertical Backward Facing Step with Uniform Wall Heat Flux. *6th International Scientific Conference for Nanotechnology, Advanced Materials and Their Applications*. 2-3 May. Baghdad. Iraq.

➤ **ARTICLES**

1. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Majid Niaz Akhtar, Abdul Amir H. Kadhum, Abu Bakar Mohamad and Ahmed A. Al-Amiery. **2015**. Review Properties and Applications of Polyvinyl Alcohol, Halloysite Nanotubes and Their Nanocomposites. *Molecules*. MDPI. Volume 20. Issue 12. pp.22833–22847. ISI. Published.

2. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Majid Niaz Akhtar, Muhammad Rafi Raza. **2015**. Morphology and Tensile Properties of Thermoplastic Polyurethane –Halloysite Nanotube Nanocomposites. *International Journal of Automotive & Mechanical Engineering*. UMP. Volume 12. ISSN: 2229-8649. pp.2845. Scopus. Published.
3. Abu Bakar Sulong, **Tayser Sumer Gaaz**, Jaafar Sahari. **2015**. Mechanical and Physical Properties of Injection Molded Halloysite Nanotubes-Thermoplastic Polyurethane Nanocomposites. *Procedia-Social and Behavioral Sciences*. Elsevier. Volume 195. pp.2748-2752. Procedia. Published.
4. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Abdul Amir H Kadhum, Muneer Ba-Abbad, Ahmed A Al-Amiery. **2015**. Enhancement of physical and chemical properties of halloysite nanotubes using sulfuric acid. *Wulfenia*. Austria. Volume 22. Issue 8. pp.264-284. ISI. Published.
5. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Abdul Amir H. Kadhum, Mohamed H. Nassir and Ahmed A. Al-Amiery. **2016**. Impact of Sulfuric Acid Treatment of Halloysite on Physico-Chemic Property Modification. *Materials*. MDPI. Volume 9. Issue 8. pp.620. ISI. Published.
6. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Abdul Amir H. Kadhum. **2016**. Effect of HNTs Addition in the Injection Moulded Thermoplastic Polyurethane Matrix on the Mechanical and Thermal Properties. *Sains Malaysiana*. Volume 45. Issue 8. pp.1235–1242. ISI. Published.
7. **Tayser Sumer Gaaz**, Abu Bakar Sulong, M.N.M. Ansari, Abdul Amir H. Kadhum, Ahmed A. Al-Amiery, and M.S.H. Al-Furjan. **2016**. Effect of Halloysite Nanotubes Loading on Thermo-Mechanical and Morphological Properties of Polyurethane Nanocomposites. *Materials Technology: Advanced Performance Materials*. Taylor & Francis. pp.1–13. ISI. Published.
8. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Abdul Amir H. Kadhum, Mohamed H. Nassir, and Ahmed A. Al-Amiery. **2016**. Optimizing Injection Moulding Parameters of Different Halloysites Types Reinforced Thermoplastic Polyurethane Nanocomposites Via Taguchi Complemented with ANOVA. *Materials*. MDPI. Volume 9. Issue 11. pp.947. ISI. Published.
9. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Abdul Amir H Kadhum, Mohamed H Nassir, Ahmed A Al-Amiery. **2017**. Optimizing Physio-Mechanical Properties of Halloysite Reinforced Polyurethane Nanocomposites by Taguchi Approach. *Science of Advanced Materials*. American Scientific Publishers. Volume 9. Issue 6. pp.949-961. ISI. Published
10. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Abdul Amir H Kadhum, Mohamed H Nassir, Ahmed A Al-Amiery. **2017**. Surface Improvement of Halloysite Nanotubes. *Applied Sciences*. MDPI. Volume 7. Issue 3. pp.291. ISI. Published.
11. **Tayser Sumer Gaaz**, Abu Bakar Sulong, Abdul Amir H. Kadhum, Ahmed A. Al-Amiery, Mohamed H. Nassir, Ahed Hameed Jaaz. **2017**. The Impact of Halloysite on the Thermo-Mechanical Properties of Polymer Composites. *Molecules*. MDPI. Volume 22. Issue 5. pp. 838. ISI. Published.
12. **Tayser Sumer Gaaz**, Abdul Amir H. Kadhum, Patina Kiah Anak Michael, Ahmed A. Al-Amiery, Abu Bakar Sulong, Mohamed H. Nassir, Ahed Hameed Jaaz. **2017**. Unique Halloysite Nanotubes-Polyvinyl alcohol-Polyvinylpyrrolidone Composite

- Complemented with Physico-Chemical Characterization. *Polymers*. MDPI. Volume 9. Issue 6. pp.207. ISI. Published.
13. Ahed Hameed Jaaz, Husam Abduraseool Hasan, Kamaruzzaman Sopian, Abdul Amir H Kadhum, *Tayser Sumer Gaaz*, Ahmed A Al-Amiery. **2017**. Outdoor Performance Analysis of a Photovoltaic Thermal (PVT) Collector with Jet Impingement and Compound Parabolic Concentrator (CPC). *Materials*. MDPI. Volume 10. Issue 8. pp.888. ISI. Published.
 14. *Tayser Sumer Gaaz*, Abu Bakar Sulong, MNM Ansari, Abdul Amir H Kadhum, Ahmed A Al-Amiery, Mohamed H Nassir. **2017**. Effect of Starch Loading on the Thermo-Mechanical and Morphological Properties of Polyurethane Composites. *Materials*. MDPI. Volume 10. Issue 7. pp.777. ISI. Published.
 15. *Tayser Sumer Gaaz*, Abu Bakar Sulong, Abdul Amir H Kadhum, Mohamed H Nassir, Ahmed A Al-Amiery. **2017**. Absolute variation of the mechanical characteristics of halloysite reinforced polyurethane nanocomposites complemented by Taguchi and ANOVA approaches. *Results in Physics*. Elsevier. Volume 7. pp.3287-3300. ISI. Published.
 16. *Tayser Sumer Gaaz*, Abu Bakar Sulong, Abdul Amir H. Kadhum. **2017**. Influence of Sulfuric Acid on the Tensile Properties of Halloysite Reinforced Polyurethane Composite. *Journal of Mechanical Engineering*. UiTM. Volume 3. Issue 1. pp.1-10. Scopus. Published.
 17. Abdulhadi Kadhim, Ahmed K Al-Okbi, Dalia M Jamil, Ahmed Qussay, Ahmed A Al-Amiery, *Tayser Sumer Gaaz*, Abdul Amir H Kadhum, Abu Bakar Mohamad, Mohamed H Nassir. **2017**. Experimental and theoretical studies of benzoxazines corrosion inhibitors. *Results in Physics*. Elsevier. Volume 7. pp.4013-4019. ISI. Published.
 18. *Tayser Sumer Gaaz*, Emad Kamil Hussein, Ahmed A Al-Amiery. **2017**. Physical Properties of Halloysite Nanotubes-Polyvinyl Alcohol Nanocomposites using Malonic Acid Crosslinked. *UKM Engineering Journal*. Published.
 19. Dalia M Jamil, Ahmed K Al-Okbi, Shaimaa B Al-Baghdadi, Ahmed A Al-Amiery, Abdulhadi Kadhim, *Tayser Sumer Gaaz*, Abdul Amir H Kadhum, Abu Bakar Mohamad. **2018**. Experimental and theoretical studies of Schiff bases as corrosion inhibitors. *Chemistry Central Journal*. Nature Publishing Group. Volume 12. Issue 1. pp.7. ISI. Published.
 20. Mohammed H Othman Ahmed, Ahmed A Al-Amiery, Yasmin K Al-Majedy, Abdul Amir H Kadhum, Abu Bakar Mohamad, *Tayser Sumer Gaaz*. **2018**. Synthesis and characterization of a novel organic corrosion inhibitor for mild steel in 1 M hydrochloric acid. *Results in Physics*. Elsevier. Volume 8. pp.728-733. ISI. Published.
 21. Shaimaa B Al-Baghdadi, Fanar G Hashim, Ahmed Q Salam, Talib K Abed, *Tayser Sumer Gaaz*, Ahmed A Al-Amiery, Abdul Amir H Kadhum, Khalid S Reda, Wahab K Ahmed. **2018**. Synthesis and corrosion inhibition application of NATN on mild steel surface in acidic media complemented with DFT studies. *Results in physics*. Elsevier. Volume 8. pp. 1178-1184. ISI. Published.
 22. Khalida F. Al-Azawi, Iman Mahdi Mohammed, Shaimaa B. Al-Baghdadi, Taghried A. Salman, Hamsa A. Issa, Ahmed A. Al-Amiery, *Tayser Sumer Gaaz*, Abdul Amir H. Kadhum. **2018**. Experimental and quantum chemical simulations on the corrosion inhibition of mild steel by 3-((5-(3,5-dinitrophenyl)-1,3,4-thiadiazol-2-

- yl)imino)indolin-2-one. *Results in Physics*. Elsevier. Volume 9. pp. 278–283. ISI. Published.
23. Ahmed A Al-Amiery, Mohammed H Othman Ahmed, Thamer Adnan Abdullah, **Taysir Sumer Gaaz**, Abdul Amir H Kadhum. **2018**. Electrochemical studies of novel corrosion inhibitor for mild steel in 1 M hydrochloric acid. *Results in Physics*. Elsevier. Volume 9. pp. 978-981. ISI. Published.
 24. Ahed Hameed Jaaz, Kamaruzzaman Sopian, **Taysir Sumer Gaaz**. **2018**. Study of the electrical and thermal performances of photovoltaic thermal collector-compound parabolic concentrated. *Results in Physics*. Elsevier. Volume 9. pp. 500-510. ISI. Published.
 25. **Taysir Sumer Gaaz**, Hasan Mohammed Luaibi, Ahmed A Al-Amiery, Abdul Amir H Kadhum. **2018**. Effect of phosphoric acid on the morphology and tensile properties of halloysite-polyurethane composites. *Results in Physics*. Elsevier. Volume 9. pp. 33-38. ISI. Published.
 26. Hussein Jwad Habeeb, Hasan Mohammed Luaibi, Rifaat Mohammed Dakhil, Abdul Amir H Kadhum, Ahmed A Al-Amiery, **Taysir Sumer Gaaz**. **2018**. Development of new corrosion inhibitor tested on mild steel supported by electrochemical study. *Results in physics*. Elsevier. Volume 8. pp. 1260-1267. ISI. Published.
 27. Taghried A. Salman, Khalida F. Al-Azawi, Iman Mahdi Mohammed, Shaimaa B. Al-Baghdadi, Ahmed A. Al-Amiery, **Taysir Sumer Gaaz**, Abdul Amir H. Kadhum. **2018**. Experimental studies on inhibition of mild steel corrosion by novel synthesized inhibitor complemented with quantum chemical calculations. *Results in Physics*. Elsevier. Volume 10. pp. 291–296. ISI. Published.
 28. Walaa Mousa Hashim, Ali Talib Shomran, Hasan Ali Jurmut, **Taysir Sumer Gaaz**, Abdul Amir H Kadhum, Ahmed A Al-Amiery. **2018**. Case study on solar water heating for flat plate collector. *Case studies in thermal engineering*. Elsevier. Volume 12. pp. 666-671. ISI. Published.
 29. Rifat Mohammed Dakhil, **Taysir Sumer Gaaz**, Ahmed A Al-Amiery, Abdul Amir H Kadhum. **2018**. Inhibitive impacts extract of Citrus aurantium leaves of carbon steel in corrosive media. *Green Chemistry Letters and Reviews*. Taylor & Francis. Volume 11. Issue 4. pp. 559-566. ISI. Published.
 30. Rifat Mohammed Dakhil, **Taysir Sumer Gaaz**, Ahmed Al-Amiery, Mohd S. Takriff, Abdul Amir H. Kadhum. **2019**. Synthesis and characterization of erbium trioxide nanoparticles as photocatalyzers for degradation of methyl orange dye. *Drinking Water Engineering and Science*. Copernicus GmbH. Volume 12. Issue 1. pp.15-21. ISI. Published.
 31. Qusay A Jawad, Dhafer S Zinad, Rawaa Dawood Salim, Ahmed A Al-Amiery, **Taysir Sumer Gaaz**, Mohd S Takriff, H Kadhum, Abdul Amir. **2019**. Synthesis, Characterization, and Corrosion Inhibition Potential of Novel Thiosemicarbazone on Mild Steel in Sulfuric Acid Environment. *Coatings*. Multidisciplinary Digital Publishing Institute. Volume 9. Issue 11. pp.729. ISI. Published.
 32. Ali Assim Al-Obaidi, Ali J. Salman, Ali Raheem Yousif, Dalya H. Al-Mamoori, Mohamed H. Mussa, **Taysir Sumer Gaaz**, Abdul Amir H Kadhum, Mohd S. Takriff, Ahmed A. Al-Amiery. **2019**. Characterization the effects of nanofluids and heating on flow in a baffled vertical channel. *International Journal of Mechanical and Materials Engineering*. Springer Singapore. Volume 14. Issue 1. pp.11. ISI. Published.

- 33.** S.S. Al-Taweel, K.W.S. Al-Janabi, H.M. Luaibi, A.A. Al-Amiery, **T.S. Gaaz.** **2019.** Evaluation and characterization of the symbiotic effect of benzylidene derivative with titanium dioxide nanoparticles on the inhibition of the chemical corrosion of mild steel. *International Journal of Corrosion and Scale Inhibition.* Volume 8. Issue 4. pp.1149-1169. ISI. Published.
- 34.** Hasan M Luaibi, Saja S Al-Taweel, **Tayser Sumer Gaaz,** Abdul Amir H Kadhum, Mohd S Takriff, Ahmed A Al-Amiery. **2019.** Removal of Rhodamine Dye from Water Using Erbium Oxide Nanoparticles. *Korean Journal of Materials Research.* Volume 29. Issue 12. pp.747-751. ISI. Published.