Bahaa Mostafa Kamel Mehany
(Associate Professor)

PERSONAL INFORMATION:

Name: Bahaa Mostafa Kamel Mehany

Date of birth: October 1, 1984

Citizenship: Egyptian

Work Address : Bani Swief Technological University- Bani Swief Governorate – Beni Suef City (East) – 1st District – 1st Neighborhood .

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Languages. English and Arabic.

Research gate website: https://www.researchgate.net/profile/Bahaa-Kamel-2?ev=hdr_xprf.

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Google scholar: https://scholar.google.com/citations?hl=en&user=7FXB6RkAAAAJ

EDUCATION:

Ph.D. In Mechanical Design and Production Engineering "Tribological and Rheological Characteristics of Modified Calcium Grease with Carbon Nanotubes and Graphene Nanosheets". Cairo University, Giza, Egypt (2016).

M.Sc. In Mechanical Design and Production Engineering "Modeling and Simulation of hydrogen storage tank fabricated from Composite Materials". Cairo University, Giza, Egypt (2012).

B.Sc. In Mechanical Design and Production Engineering, (2006).

Employment Information:

- **Associate Professor, NRC, 2023**
- **Researcher, NRC, 2017– 2023.**
- **Assistant Researcher,2012– 2017**
- **Research Assistant, Fellowship , Academy of Scientific Research and Technology NRC, 2007–2012**

Certificates and Awards.

1. Scholarship from the Academy of Scientific Research and Technology to obtain the master's degree from the National Research Center 2007.

2. The best Ph.D. thesis from the Department of Mechanical Engineering, Cairo University 2017.

3. The Scientific Encouragement Award for 2020 from the National Research Center.

4- Awarded First Place for Best Scientific Research at the 2nd Technological Education Conference 2025.

Teaching Experiences.

- **Beni-Suef Technological University Academic years 2020-2025**
- **Canadian International College (Academic year 2021).**
- **King Khalid University (Mechanical and industrial engineering) (Academic years 2015-2020)**
- **Lecturer at Misr University for Science & Technology(Academic years 2011-2014)**
- **El-Obour High Institute for Engineering and Technology (Academic years 2012-2015)**
- **Thebes Academy for Science – Maadi – Cairo (Academic years 2008-2014)**
- **Akhbar El-Yom Academy- Sixth of October City (Academic years 2007).**

Experiences

- **Head of international relations unit in the faculty of engineering at King Khalid University.**
- **Pioneer of student activity in the faculty of engineering at King Khalid University.**
- **Coordinator of the Mechatronics Department at Beni Suef Technological University.**
- **Head of the electronic correction unit at Beni Suef Technological University.**
- **Vice Dean of the College for Training and Industry at Beni Suef Technological University.**
- **Coordinator of the Postgraduate Studies Administration at Beni Suef Technological University.**

Research Projects.

- Hydrogen storage, Design, and manufacturing composite pressure vessels (2008).
- Seawater desalination, Hollow fiber membrane manufacturing (2010).
- Manufacturing, Evaluation, and testing of cascaded VAWT design equipped with Savonius VAWT9(2020) .
- Mini car run by alternative renewable fuel for 4 persons (2020).
- Produced MWCNTs by using arc discharge method

Patent

- A patent application was submitted on December 22, 2020, titled: "Production of Hybrid Lubricants from Nanomaterials with Self-Healing Properties for Wear-Induced Scratches Inside Engines."

International Scientific Visiting

Turkey: Grant from King Khalid University 2019 "Strategic leadership training ".

China: Grant from The Egyptian Korean Faculty of Technological Industry and Energy 2024" Seminar on Digitalization of Vocational Education for Belt and Road Countries", Shanghai Business School.

Teaching Courses For An Undergraduate.

- Engineering Mechanics
- Engineering Drawing
- Production Engineering
- Fluid Mechanics
- Material science
- Manufacturing Engineering 1,2
- Fluid and thermodynamics
- Production planning and control
- Industrial quality control
- Industrial safety

Membership of Scientific Associations:

• Member of the Egyptian Syndicate of Engineers (ESE)
• Member of the "International Association for Solar Energy Education", (IASEE).

Professional Experiences:

- **Ph.D and M.Sc Supervision:**

1. Esraa Mohamed Afifi, "Investigation of gear performance of MLNGPs as an additive on polyamid. Spur gear", M.Sc. Thesis, Department of Mechanical Engineering, Cairo University, Jan.2018.

2. Ahmed Shaban zayed, "Experimental study of tribological and mechanical properties of aluminum matrix reinforced by Al2O3/CNTs M.Sc", Thesis, Department of Mechanical Engineering, Cairo University, Oct. 2019.

3. Ahmed Salama "Design and fabrication of a small-scale 3D filament extruder for Fused Deposition Modeling (FDM) additive manufacturing PhD", Department of Mechanical Engineering, Cairo University, 2020.

4. Nora, study the tribological and mechanical properties of Ultra high polyethylene with nano additive for medical applications M.Sc", Department of Mechanical Engineering, Cairo University, 2020.

5. Nada , Enhancing the Rheological Properties and Tribological Performance of Oil with different nano additives PhD", Department of Mechanical Engineering, Cairo University, 2022.

PUBLICATIONS

1) Ahmed Salama and Bahaa M.kamel , 2025 ", Investigation of Tribological and Antibacterial Performance of UHMWPE/HAP+TiO2 for Uses in Biomedical Applications, under review.

2) Bahaa M.kamel and Nora, 2024", Mechanical and antibacterial properties of hybrid polymers composite reinforcement for Biomedical Applications, Journal of Biomaterials Science Polymer Edition.

3) Bahaa M. Kamel, et al, 2023", Lithium Calcium greases having carbon nanotubes and Aluminum oxide base nano-additives: preparation and characteristics of nano grease", ACS Omega.

4) Bahaa M. Kamel, et al, 2023", Tribological and rheological properties of calcium grease with hybrid nano additives", Journal of Dispersion Science and Technology.

5) Ahmed Salama and Bahaa M.kamel, 2022", Investigation of Mechanical Properties of UHMWPE Composites Reinforced with HAP+TiO2 Fabricated by Solvent Dispersing Technique", Journal of Materials Research and Technology, Accepted .

6) Bahaa M. Kamel ,et al, 2022", Plastic waste conversion to oil through the pyrolysis process", Journal of International Society for Science and Engineering.

7) Bahaa M. Kamel ,et al ,2022",Enhancement of diesel engine performance and emissions burning biodiesel with cerium oxide nanoparticles additive", Journal of International Society for Science and Engineering.

8) Bahaa M. Kamel and Alaa Mohamed,2022" Tribological and rheological properties of the lubricant containing hybrid graphene nanosheets (GNs)/titanium dioxide (TiO2) nanoparticles as an additive on calcium grease", Journal of Dispersion Science and Technology, Vol.11, No.1.

9) Sameh Dabees, Tarek Osman, and Bahaa M. Kamel ,2022 "Mechanical, thermal and flammability Properties of PA6 reinforced with a combination of Carbon nano tubes (CNT) and Titanium dioxide (TiO2) for under-the-hood applications" Journal of Thermoplastic Composite Materials.

10) Sameh Dabees, Abou Bakr Elshalakany,Vineet Tirth, Bahaa M.Kamel,2021 ," Synthesis and characterization studies of high-density polyethylene -based nanocomposites with enhanced surface energy, tribological, and electrical roperties"PolymerTesting,Vol.98,107193

11) Bahaa M. Kamel, Vineet Tirthb, Ali Algahtanib , 2021 ," Optimization of the Rheological Properties and Tribological Performance of SAE 5w-30 Base Oil with Added MWCNTs"lubricants ,Vol.9 .7.

12) A Mohamed, S Yousef, S Ali and bahaa m.kamel,2021 ,"Highly Efficient Visible Light Photodegradation of Cr (VI) Using Electrospun MWCNTs-Fe3O4@ PES

Nanofibers" Catalysts journal , Vol. 11, PP.

13) Dabees S, Tirth V, Mohamed A, Kamel BM, ,2021, "Wear Performance and Mechanical Properties of MWCNT/HDPE Nanocomposites for Gearing Applications", Journal of Materials Research and Technology, Vol. 12, PP. 2476- 2488.

14) Sameh and Bahaa M.kamel, et al, 2021"Carbon Nanotubes and Aluminum Oxide as Nanofillers for Enhancing Tribological Properties of High- Density Polyethylene", polymer testing journal . Vol. 98, 107193.

15) Vineet Tirth and Bahaa M.kamel, et al 2020,"Effect of Pressure on Ageing Response of (SiC+Al2O3)/6063 Composites", Journal of Materials Research and Technology, 9(5).pp11834–11848.

16) M. S. Gad, Irfan Anjum Badruddin and Bahaa M. Kamel,2021, "Improving the diesel engine performance, emissions and combustion characteristics using biodiesel with carbon nanomaterials", Fuel journal, Volume 288,119665.

17) Bahaa et al, 2020, "The Effect of MWCNTs/GNs Hybrid Addition on the Tribological and Rheological Properties of lubricating Engine Oil", Journal of Dispersion Science and Technology, Vol.11, No.1,pp. 1-10.

18) Bahaa M. Kamel 2020, "Theoretical and experimental analysis of a night sky radiation cooling system",Kasmera Journal

19) Sameh and Bahaa M.kamel et al, 2020, "Experimental design of Al2O3/MWCNT/HDPE hybrid Nanocomposites for Hip Joint Replacement", Journal of Bioengineering, Vol.11, No.1,pp. 679-692.

20) Alaa Mohamed, VineetTirth,Bahaa M.Kamel,2020,"Tribological characterization and rheology of hybrid calcium grease with graphene nanosheets and multi-walled carbon nanotubes as additives", Journal of Materials Research and Technology, Vol.9,No.3, pp. 6178-6185.

21) Alaa Mohamed, shady Ali, Bahaa M. Kamel,2020,"Development, manufacturing an automated lubrication machine test for nano grease", Journal of Materials Research and Technology, Vol. 9, No. 2, pp. 2054-2062.

22) Ahmed Sh.Zayed , Bahaa M. Kamel , T.A. Osman , Omayma A. Elkady , Shady Ali,2019"Experimental Study of Tribological and Mechanical Properties of Aluminum Matrix Reinforced by Al2O3 / CNTs", Fullerenes, Nanotubes and Carbon Nanostructures", Fullerenes, Nanotubes and Carbon Nanostructures, Vol. 27, No. 7, pp. 124-127.

23) Alaa Mohamed, Walaa S. Nasserd, Bahaa M. Kamel, Tawheed Hashemc, 2019,"Photodegradation of phenol using composite nanofibers under visible lightirradiation"، European Polymer Journal, Vol.113,pp.192–196.

24) Abou Bakr El shalakany , Bahaa M.Kamel , A. Khattab , T.A. Osman, B. Azzam, M. Zaki, " Improved Mechanical and Tribological Properties of A356 Reinforced by MWCNTs", Fullerenes, Nanotubes and Carbon Nanostructures, Vol. 26, No. 4, pp. 185-194.

25) Esraa M.Afifi, Abou Bakr Elshalakny, T. A. Osman, Bahaa M.Kamel and H. Zian, "Investigation of Gear Performance of MLNGPs as an additive on Polyamide 6 spur gear", Vol. 25, No. 7, Pages 351-359.

26) Bahaa M. Kamel, Alaa Mohamed, M. El Sherbiny, M. Abd-Rabou and k.A.Abed,2017 ," Rheological Characteristics Of Modified Calcium Grease With Graphene Nanosheets", Fullerenes, Nanotubes and Carbon Nanostructures, Vol. 25, No. 7, pp.429–434.

27) Bahaa M. Kamel, Alaa Mohamed, M. El Sherbiny, M. Abd-Rabou and k.A.Abed, 2017,"Tribological Properties of Synthesis Graphene Nanosheets as an Additive in Calcium Grease", Journal of Dispersion Science and Technology, Vol. 38, No. 10, pp. 1495–1500.

28) Bahaa M. Kamel, Alaa Mohamed, M. El Sherbiny and k.A.Abed,2016 ," Tribological behaviour of calcium grease containing carbon nanotubes additives ", journal of Industrial Lubrication and Tribology, Vol.68,No.6.

29) Bahaa M. Kamel, Alaa Mohamed, M. El Sherbiny and k.A.Abed,2016,"Rheology and Thermal Conductivity of Calcium Grease Containing Multi-Walled Carbon NanoTubes",journal of Fullerenes, Nanotubes and Carbon Nanostructures , Fullerenes, Nanotubes and Carbon Nanostructures, Vol.24,No.4,pp.260-265.

30) Bahaa M. Kamel, Mohamed El-Anwar and Nihad M. El-Chazly " Design of Hydrogen Storage Tanks Fabricated from Composite Materials ",16th International Conference on Applied Mechanics and Mechanical Engineering, Military Technical College ,Kobry El-Kobbah, Cairo, Egypt, , 27-29 May, 2014.

Books

1) Bahaa M.kamel, Book ,2020, "Tribological and Rheological Characteristics of Nano Lubricant",LAP LAMBERT Academic Publishing. https://www.morebooks.shop/store/gb/book/tribological-and-rheological-characteristics- of-nano-lubricant/isbn/978-620-2-80141-6.

2) Bahaa M.kamel, Book ,2024, "The tribology and rheology properties of Engine oil with different additives(nanoparticles & vegetable oil) ",LAP LAMBERT Academic Publishing http://www.morebooks.shop/bookprice_offer_3f5587f0d046cce698f39e2f98842b35f56327fd?locale=gb¤cy=EUR

REFERENCE

To be provided upon request