

## Mohamed Kamal Ahmed Ali (M.K.A. Ali)

*Associate Professor in Automotive and Tractors Engineering Department, Faculty of Engineering,  
Minia University, El-Minia 61519, Egypt.*

Date of birth 15/02/1985 | Nationality Egyptian



002/01020068536 (Egypt)



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<http://scholar.google.com/citations?user=RJU89YMAAAAJ&hl=en>

<https://www.scopus.com/authid/detail.uri?authorId=56780823900>

<https://0810opigd-1105-y-https-www-webofscience-com.mplbci.ekb.eg/wos/author/r>

[https://www.researchgate.net/profile/Mohamed\\_Ahmed\\_Ali](https://www.researchgate.net/profile/Mohamed_Ahmed_Ali)

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Google Scholar	
Citations	2614
h-index	25
Scopus	
Citations	2132
h-index	24
RG Score	
38.30	

Web of Science  
Researcher ID:  
I-5503-2019

### ➤ Quick Highlights:

- M.K.A. Ali received the **Egyptian State Encouragement Award for Engineering Sciences** in 2020, which is granted annually by the Egyptian Academy of Scientific Research and Technology in recognition of outstanding research achievements nationwide.
- M.K.A. Ali received his **PhD degree in May 2017** from Wuhan University of Technology, Wuhan, China.
- M.K.A. Ali is ranked among **2% Top of Scientists in the World for his Field** based on updated science-wide author databases of standardized citation indicators by Stanford University at 2019 and 2020.
- **According to AD Scientific Index (2022)**, in the field of Automotive Engineering, Prof. Mohamed Kamal Ahmed Ali ranks are 1, 1, 1, and 24 in Minia University, Egypt, Africa, and the world, respectively.
- M.K.A. Ali Awarded **Minia University Encouragement Award** for Engineering and Technology Science in 2019, Egypt.
- M.K.A. Ali Awarded **Excellent Doctoral Dissertation** from Wuhan University of Technology, 2018, China.
- M.K.A. Ali held a **Post-Doctoral position** at Automotive School, Wuhan University of Technology, Wuhan, China (2017: 2019).
- M.K.A. Ali is mainly engaged in the research field of **nanotechnology application in automotive (Nano-Tribology in**

**automotive engines**) for saving the energy and improving engine performance using smart nanomaterials.

- M.K.A. Ali has **published several articles tagged by SCI in leading journals** such as Applied Energy, Tribology International, Wear, Energy, Renewable and Sustainable Energy Reviews, Energy, Energy Conversion and Management, etc.
- M.K.A. Ali is **PI in the project** from the Science and Technology Development Fund (STDF) of Egypt (Accepted & Contracting).
- M.K.A. Ali is **co-PI in the project** from the National Natural Science Foundation of China (NSFC) from 2019 to 2022.
- M.K.A. Ali is currently Associate Editor of Journal of Advanced Engineering Trends (JAET) (ISSN 2682-2091).
- M.K.A. Ali is **Reviewer in several of the Journals** such as Tribology International (Q1), ACS Applied Materials & Interfaces (Q1, Class: A) etc. Besides, M.K.A. Ali is [Publons Academy Mentor](#).
- M.K.A. Ali awarded his **outstanding publication award** for academic year 2015-2016-2017-2018 from Wuhan University of Technology and Minia University for academic year 2017-2018-2019-2020.

### ➤ Education and Training:

- 10/2017 – 10/2019** Postdoctoral Research, Hubei Key Laboratory of Advanced Technology for Automotive Components, Wuhan University of Technology, China. (Collaboration Supervisor: Prof. Hou Xianjun).
- 2014 - 2017** Ph.D., Automotive Engineering, School of Automotive, Wuhan University of Technology, China.
- 2010 - 2013** M.Sc., Automotive Engineering, Faculty of Engineering, Minia University, Egypt.
- 2010 - 2012** Technical affairs officer for vehicles Battalion 46 in the Armed Forces, Egypt.
- 2004 - 2009** B.Sc., Automotive Engineering (**by distinction with Honors, Ranked the First**), Faculty of Engineering, Minia University, Egypt.

### ➤ Professional Experience:

- 2017 - Now** Assistant Professor in Automotive Engineering, Minia University, El-Minia 61519, Egypt
- 2014 - 2017** PhD Candidate in Wuhan University of Technology, Wuhan 430070, China.
- 2013 - 2014** Assistant Lecturer in Automotive Engineering, Minia University, El-Minia 61519, Egypt.
- 2012 - 2013** Assistant Teaching in Automotive Engineering, Minia University, El-Minia 61519, Egypt.
- 2010 - 2012** Technical affairs officer for vehicles Battalion 46 Second Army in Egyptian armed forces.

### ➤ Research Interests:

Tribology, Engine Tribology, Energy, Engine Performance and Emission Control Technologies, Nanomaterials, Nanolubricants, Solid Lubricants, and Nanotechnology Applications in Automotive.

### ➤ Honors and Awards:

- 2020** M.K.A. Ali received the **Egyptian State Encouragement Award for Engineering Sciences**
- 2020** M.K.A. Ali is **Ranked Among 2% Top of Scientists in the World** for his field based on updated science-wide author databases of standardized citation indicators by Stanford University at 2019 and 2020.
- 2019** Awarded **Minia University Encouragement Award** for Engineering and Technology Science in 2019, Egypt.
- 2018** Awarded **Excellent Doctoral Dissertation** from Wuhan University of Technology, Wuhan, 2018, China.

- 2017**      **Outstanding Reviewer** from Tribology International, 2017, Elsevier.
- 2017**      **Scientific Publication Award** for the academic years 2017 and 2018 from Minia University, Egypt.
- 2017-2016**      **Outstanding Publication Award** for academic years 2016-2017, 2018 and 2019 from Wuhan University of technology, China.
- 2010**      Obtaining the **Medal of Excellence** during performing military service as a reserve officer from Egyptian Armed Forces.

### ► Grants and Fellowships:

- 1- Post-doctoral position from 10/2017 to 10/2019 at Automotive School, Wuhan University of Technology, Wuhan, China.
- 2- CSC Scholarship from 9/2014 to 9/2017 to study PhD at Automotive School, Wuhan University of Technology, Wuhan, China.

### ► Academic Activities:

- 1- M.K.A. Ali is currently Associate Editor of Journal of Advanced Engineering Trends (JAET) (ISSN 2682-2091).
- 2- M.K.A. Ali is also Publons Academy Mentor.
- 3- M.K.A. Ali is a member of American Chemical Society (ACS), (ID: 31011630).
- 4- M.K.A. Ali is a member of ASTM International (ID: 2221350).

### 5- The contribution in the peer review process in academic journals:

<https://publons.com/researcher/1330664/mohamed-kamal-ahmed-ali/peer-review/>

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Researchers ▶ Mohamed Kamal Ahmed Ali

**Mohamed Kamal Ahmed Ali**  
Web of Science ResearcherID  
I-5503-2019

Academy graduate & mentor  
Assistant Professor - Automotive, Minia University

PUBLICATIONS	TOTAL TIMES CITED	H-INDEX	VERIFIED REVIEWS	VERIFIED EDITOR RECORDS
58	1,918	24	370	7

### 6- Guest Editor

#### (a) Lubricants: Special Issue "Friction and Wear in Machine Design"

Journal Rank: **IF = 3.584** In Web of Science: Q2 (Mechanical Engineering)

**lubricants**  
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Friction and Wear in Machine Design

Guest Editor  
Dr. Mohamed Kamal Ahmed Ali

Deadline  
30 June 2022

mdpi.com/si/97733      Invitation to submit

**Special Issue**

## Special Issue Editor

Dr. Mohamed Kamal Ahmed Ali [E-Mail](#) [Website](#) [SciProfiles](#)

Guest Editor

Automotive and Tractors Engineering Department, Faculty of Engineering, Minia University, 61519 El-Minia, Egypt

**Interests:** tribology; friction; wear; coatings; materials science; engine tribology; nanotribology; lubrication; lubricant additives; nano-lubricants; composites; self-lubricating; thermophysical properties; mathematical modeling



## Special Issue Information

Dear Colleagues,

We would like to invite you to contribute to the Special Issue of Lubricants entitled "**Friction and Wear in Machine Design**". As you know, friction is a primary cause of energy dissipation in many different fields, from the automotive industry to biomedical applications. Accordingly, studies on the reduction in frictional power losses have gained great attention and constitute a promising direction in improving the performance of different engineering applications. Recently, nanotechnology has led to the creation of novel materials for lubrication in tribological applications. Nanolubricants and self-lubricating materials have attracted enormous interest from manufacturers and researchers around the world due to their potential for enhancing the durability and lifespan of mechanical components. The main aim of the current Special Issue is the further development of tribological studies as a solution for reducing frictional power losses in various applications, in order to enhance the durability of the tribo-components and save energy.

We sincerely hope you will accept our invitation to contribute to this Special Issue.

We look forward to hearing from you soon.

Dr. Mohamed Kamal Ahmed Ali

Guest Editor

## (b) Frontiers in Mechanical Engineering: "Nanolubricant Additives: For Saving Energy in Tribological Applications"

Journal Rank: In SCOPUS, CiteScore: 3.0 - Q2 (Mechanical Engineering)

### Research Topic

## Nanolubricant Additives: For Saving Energy in Tribological Applications

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### About this Research Topic

Friction is a primary cause of energy dissipation in many different fields, from automotive to biomedical applications. Current and future mechanical systems would require more efficient lubricant oils. It is necessary to explore novel ways to replace the use of environmentally harmful additives without compromising on tribological behavior for mechanical applications.

Accordingly, the studies on frictional power losses reduction have gained great attention as a promising direction in improving the performance of different engineering applications. Recently, Nanotechnology has led to the creation of novel materials for lubrication in tribological applications. Nanolubricants are emerging as a remarkably promising technology for enhancing anti-friction/wear properties, heat transfer, and energy-saving in tribological applications.

This Research Topic intends to capture the recent advances in lubricant additives and lubrication research and explore the basic scientific issues. This Research Topic welcomes original research papers and reviews from both academic and industrial researchers dealing with advanced nanolubricants and investigating nanolubrication mechanisms. Specific themes include, but are not limited to:

- Dispersion Stability and Rheological Behavior of Nanolubricants.
- Tribological Performance of Nanolubricants.
- Thermophysical Properties of Nanolubricants.
- Wear Analysis of Sliding Interfaces.
- Lubrication Regimes.
- Nanolubricant Mechanisms

**Keywords:** Friction, Wear, Nanolubricants, Nanoparticles, Lubrication Regimes, Tribofilm Mechanisms, Mathematical Modeling

### Topic Editors



**Mohamed Kamal Ahmed Ali**

Minia University  
Minya, Egypt

57 publications

### Submission Deadlines

05 April 2022

Abstract

04 June 2022

Manuscript

[Author guidelines >](#)

### Participating Journals

Manuscripts can be submitted to this Research Topic via

### ➤ Conferences and Workshops:

#	Conference Date	Country	Publication Status	Role	Conference Title
1	June 2021	China	PPT (Oral)	Presenting	7 <sup>th</sup> International Seminar on Motor Vehicle Environmental Protection and Supervision Technology
2	March, 2019	UK	Paper Published	Presenting	International Conference on Innovative Applied Energy (IAPE'19).
3	March, 2019	China	Paper Published	Presenting	5 <sup>th</sup> International Conference on Materials, Mechanical Engineering and Automation Technology (MMEAT2019),
4	March, 2019	China	Paper Published	Co-author	5 <sup>th</sup> International Conference on Materials, Mechanical Engineering and Automation Technology (MMEAT2019),
5	June, 2018	China	PPT (Oral)	Presenting	4 <sup>th</sup> International Automotive Emissions Control and Inspection Conference.
6	August, 2018	Canada	Paper Published	Co-author	The ASME 2018 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE 2018).
7	April, 2018	USA	Paper Published	Co-author	Smart Cities, Autonomous Vehicles and ICE Powertrain Just Some of the Topics to be Discussed at SAE International WCX World Congress Experience.
8	July, 2017	China	PPT (Oral)	Presenting	3 <sup>th</sup> Vehicle Emissions Control and Supervision Technology International Seminar Workshop.

### ➤ Academic Supervision Activity:

#	Degree	Status	Name of Candidate	Host University	Role	Keywords
1	M.Sc.	Active	Diaa Mahmoud	Minia University	Senior supervisor	Engine Tribology, Nanolubricants
2	Ph.D.	Active	Mohamed A. Ahdy	Minia University	Senior supervisor	Brake Tribology, Solid Lubricants
3	M.Sc.	Active	Wang Shicheng (王士成)	Wuhan University of Technology	Co-supervisor	Engine Performance and Emission Control Technologies
4	M.Sc.	Active	Tian Zekun (田泽坤)	Wuhan University of Technology	Co-supervisor	Engine Performance and Emission Control Technologies
5	Ph.D.	Active	Ahmed Elagouz	Wuhan University of Technology	Co-supervisor	Engine Tribology, Nanolubricants

### ➤ Involvement in Funded Research Projects:

#	Agency	No. of Project	PI and co-PI	Working Time	Status	Country
1	Science and Technology Development Fund (STDF)	37118	<a href="#">M.K.A Ali</a> (PI)	From: 2020 To: 2022	Accepted & Contracting	Egypt
2	Science and Technology Development Fund (STDF)		<a href="#">M.K.A Ali</a> (PI)	From: 2021 To: 2023	Accepted & Contracting	Egypt

3	National Natural Science Foundation of China (NSFC)	51875423	Hou Xianjun (PI), <a href="#">M.K.A Ali</a> (co-PI)	From: 1/1/2019 To: 12/31/2022	Active	China
4	ESI project in Wuhan university of technology	1653422	Hou Xianjun (PI), <a href="#">M.K.A Ali</a> (co-PI)	From: 20/4/2019 To: 5/2020	Active	China

### ➤ Publications Listed by Year

[M.K.A Ali](#) published several Articles tagged by SCI in peer-reviewed journals such as: Applied Energy, Tribology International, Renewable and Sustainable Energy Reviews, Wear, RSC Advances, etc. Moreover, he is published Book and Chinese Patent.

<https://scholar.google.com/citations?user=RJU89YMAAAAJ&hl=en>

<https://www.scopus.com/authid/detail.uri?authorId=56780823900>

#### Articles in Academic Journals:

Click on Published Paper Title to Access Paper Online

#### 2022

- 1- [M.K.A. Ali](#) & H. Xianjun. Exploring the lubrication mechanism of CeO<sub>2</sub> nanoparticles dispersed in engine oil by bis(2-ethylhexyl) phosphate as novel anti-wear additives. **Tribology International**, 2022, 165, 107321, (SCI, IF: 4.271, Q1)
- 2- [M.K.A. Ali](#), Mohamed A.A. Abdelkareem, K. Chowdary, M. F. Ezzat, A. Kotia & H. Jiang. A review of recent advances of ionic liquids as lubricants for tribological and thermal applications. Proceedings of the Institution of Mechanical Engineers, **Part J: Journal of Engineering Tribology** (2022): 13506501221091133. (SCI, IF: 1.674, Q3)
- 3- [M.K.A. Ali](#), Mohamed A.A. Abdelkareem, A. Elagouz, Hou Xianjun. **Nanolubricant Additives (Chapter)** in Nanotechnology in the Automotive Industry (Book). Elsevier, ISBN: 978-0-323-90524-4. 2022
- 4- M.A.A. Abdelkareem, R. Zhang, X. Jing, X. Wang, [M.K.A. Ali](#). Characterization and implementation of a double-sided arm-toothed indirect-drive rotary electromagnetic energy-harvesting shock absorber in a full semi-trailer truck suspension platform. **Energy**, 2022, 239, 121976. (SCI, IF: 7.147, Q1)
- 5- Daa M. Abd Elhaseeb, [M.K.A. Ali](#), M.F. Ezzat, M. Mourad. A review of the tribological properties of nanoparticles dispersed in bio-lubricants. **Part J: Journal of Engineering Tribology**, 2022, 13506501221108125. (SCI, IF: 1.76, Q3)
- 6- Hua Jiang, Yucong Qian, Yuxin Ma, [M.K.A. Ali](#), Karl D Dearn. A tribological peculiarity assessment of engine oil introducing MoS<sub>2</sub> and h-BN nanomaterials functionalized by oleic acid as nano-additives. **Journal of Molecular Liquids. Under Review.**
- 7- Hua Jiang, Yuxin Ma, Da Su, Yucong Qian, [M.K.A. Ali](#), Karl D Dearn. The tribological performance evaluation of steel-steel contact surface lubricated by polyalphaolefins containing surfactant-modified hybrid MoS<sub>2</sub>/h-BN nano-additives. **Wear. Accepted. (SCI, IF: 3.892, Q1).**
- 8- Mohamed A. A. Abdelkareem, Xingjian Jing, [M.K.A. Ali](#), Meng Li. Recent advances in vibration energy harvesting reinforced by bioinspired designs/structures. **Renewable and Sustainable Energy Reviews. Under Review.**



**2021**

- 9- [M.K.A. Ali](#), H. Xianjun. Role of bis(2-ethylhexyl) phosphate and Al<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub> hybrid nanomaterials in improving the dispersion stability of nanolubricants. **Tribology International**, 2021, 155, 106767. (SCI, IF: 4.271, Q1)
- 10- MAA Abdelkareem, L Xu, X Jing, ABM Eldaly, J Zou, [M.K.A. Ali](#). Field Measurements of the Harvestable Power Potentiality of an Off-Road Sport-Utility Vehicle. **Measurement**. 2021, 179, 109381. (SCI, IF: 3.364, Q1)
- 11- H. Liu, X. Hou, X. Li, H. Jiang, Z. Tian, [M.K.A. Ali](#). An experimental study and mechanism analysis on improving dispersion stability performance of Al<sub>2</sub>O<sub>3</sub> nanoparticles in base synthetic oil under various mixing conditions, **Journal of Nanoparticle Research**. 2021, 23, 86 (2021). (SCI, IF: 2.132, Q3)
- 12- I. Srivastava, A. Kotia, S. K. Ghosh, [M.K.A. Ali](#). Recent Advances of Molecular Dynamics Simulations in Nanotribology. **Journal of Molecular Liquids**, 2021, 335, 116154. (SCI, IF: 6.165, Q1)
- 13- Krishna Chowdary, Ankit Kotia, Venkatasubramaniam Lakshmanan, Ammar H. Elsheikh, [M.K.A. Ali](#). A review of the tribological and thermophysical mechanisms of bio-lubricants based nanomaterials in automotive applications. **Journal of Molecular Liquids**, 2021, 339, 116717. (SCI, IF: 6.165, Q1)
- 14- A. Elagouz, H. Xianjun, M. A.A. Abdelkareem, [M.K.A. Ali](#). Tribological and thermophysical behaviors of multiwalled carbon nanotubes used as nanolubricant additives, **Surface Topography: Metrology and Properties**, 2021, 9, 045002. (SCI, IF: 2.03, Q3)
- 15- X. Hou, Hua Jiang, Da Su, Haijun Liu, [M.K.A. Ali](#). Elucidation of the thermophysical mechanism of hexagonal boron nitride as nanofluids additives. **Advanced Powder Technology**, 2021, 32, 2816-2827. (SCI, IF: 4.833, Q1)
- 16- H. Jiang, X. Hou, K. Dearn, D. Su, [M.K.A. Ali](#). Thermal stability enhancement mechanism of engine oil using hybrid MoS<sub>2</sub>/h-B nano-additives with ionic liquid modification. **Advanced Powder Technology**, 2021, <https://doi.org/10.1016/j.appt.2021.10.015>, (SCI, IF: 4.833, Q1)
- 17- Mohamed A. A. Abdelkareem, Ran Zhang, Xingjian Jing, Xu Wang, [M.K.A. Ali](#). Analysis of an arm-toothed rotary electromagnetic energy-harvesting damper. **ICANDVC2021**, Springer, Singapore, 2021, 303-318.
- 18- Mohamed A. Ahdy, [M.K.A. Ali](#), M. Mourad, Ali M. Abd-El-Tawwab. Review of automotive brake lining materials and their tribological properties. **Part J: Journal of Engineering Tribology**, 2021, **Accepted**. (SCI, IF: 1.76, Q3)

**2020**

- 19- [M.K.A. Ali](#), H. Xianjun. Colloidal stability mechanism of copper nanomaterials modified by bis(2-ethylhexyl) phosphate dispersed in polyalphaolefin oil as green nanolubricants. **Journal of Colloid and Interface Science**, 2020, 578, 24-36. (SCI, IF: 7.489, Q1)
- 20- [M.K.A. Ali](#), H. Xianjun. Improving the heat transfer capability and thermal stability of vehicle engine oils using Al<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub> nanomaterials. **Powder Technology**, 2020, 363, 48-58. (SCI, IF: 4.142, Q1)

- 21- F.A. Essa, A.H. Elsheikh, A.A. Algazzar, R. Sathyamurthy, [M.K.A. Ali](#), M.A. Elaziz, K.H.Salman. Eco-friendly coffee-based colloid for performance augmentation of solar stills. **Process Safety and Environmental Protection**. 2020, 136, 259-267. (SCI, IF: 4.966, Q1)
- 22- M.A.A. Abdelkareem, Abdelrahman B.M.Eldaly, [M.K.A. Ali](#), Ismail M.Youssef, Lin Xua. Monte carlo sensitivity analysis of vehicle suspension energy harvesting in frequency domain. **Journal of Advanced Research**. 2020, 24, 53-67. (SCI, IF: 6.992, Q1)
- 23- H. Xianjun, H. Jiang, [M.K.A. Ali](#), H. Liu, D Su, Z. Tian. Dispersion behavior assessment of the molybdenum disulfide nanomaterials dispersed into poly alpha olefin. **Journal of Molecular Liquids**, 2020, 311, 113303 (SCI, IF: 5.065 Q1)
- 24- A. Kotia, K. Chowrdary, I. Srivastava, S. K. Ghosh, [M.K.A. Ali](#). Carbon Nanomaterial Additives for Superlubricity in Automotive Engine: Recent progress and perspectives. **Journal of Molecular Liquids**. 2020, 310, 113200 (SCI, IF: 5.065, Q1)
- 25- G. Sharma, A. Kotia, S. K. Ghosh, P. S. Rana, S. Bawa, [M.K.A. Ali](#). Kinematic viscosity prediction of nanolubricants employed in heavy earth moving machinery using machine learning techniques. **International Journal of Precision Engineering and Manufacturing**. DOI 10.1007/s12541-020-00379-9. (SCI, IF: 1.378, Q3)

## 2019

- 26- [M.K.A. Ali](#), H. Xianjun, M.A.A. Abdelkareem. Anti-wear properties evaluation of frictional sliding interfaces in automobile engines lubricated by copper and graphene nanolubricants. **Friction**, 2019,1, 1-12. (SCI, IF: 5.290, Q1)
- 27- [M.K.A. Ali](#), H. Xianjun. M50 matrix sintered with nanoscale solid lubricants shows enhanced self-lubricating properties under dry sliding at different temperatures. **Tribology Letters**, 2019, 67(71), 1-16. (SCI, I F: 2.566, Q2)
- 28- [M.K.A. Ali](#), M.M. Makrahy, H. Xianjun. Role of the friction layer formed on the brake lining surface in friction stabilization for automotive brakes. **Surface Topography: Metrology and Properties**, 2019, 7(1), 015026. (SCI, IF: 1.613, Q2)
- 29- M.A.A. Abdelkareem, Lin Xu, [M.K.A. Ali](#), Abdel-Rahman BM El-Daly, Mohamed A. Hassan, Ahmed Elagouz, and Yang Bo. Analysis of the Prospective Vibrational Energy Harvesting of Heavy-Duty Truck suspensions: A Simulation Approach. **Energy**, 2019, 173,332-351. (SCI, IF: 6.082, Q1).
- 30- A. Elagouz, [M.K.A. Ali](#), H Xianjun, M. A. A. Abdelkareem, M. A. Hassan. Frictional performance evaluation of sliding surfaces lubricated by zinc-oxide nano-additives. **Surface Engineering**. 2019, 30, 1-14. (SCI, I F: 2.433, Q3)
- 31- Ammar H. Elsheikh, Swellam W. Sharshir, [M.K.A. Ali](#), J. Shaibo, Elbager M. A. Edreis, Talaat Abd elhamid, Chun Du, Zhang Haiou. Thin film technology for solar steam generation: A new dawn. **Solar Energy**, 2019, 171(1), 561-575. (SCI, I F: 4.608, Q2)
- 32- [M.K.A. Ali](#), H. Xianjun. Tribological characterization of M50 matrix composites reinforced by TiO<sub>2</sub>/graphene nanomaterials in dry conditions under different speeds and loads. **Materials Research Express**. 6, 2019, 1165d6. (SCI, I F: 1.929, Q3)
- 33- [M.K.A. Ali](#), H. Xianjun, M.A.A. Abdelkareem, A.H. Elsheikh. Role of nanolubricants formulated in improving vehicle engines performance. 5<sup>th</sup> International Conference on Materials, Mechanical Engineering and Automation Technology (MMEAT2019), China.



- 34- [M.K.A. Ali](#), H. Xianjun, M.A.A. Abdelkareem. Recent advances in nanolubricant additives for fuel economy in automotive. International Conference on Innovative Applied Energy (IAPE'19). UK.
- 35- A. Elagouz, [M.K.A. Ali](#), H Xianjun, M. A. A. Abdelkareem. Techniques used to improve the tribological performance of the piston ring-cylinder liner contact. 5<sup>th</sup> International Conference on Materials, Mechanical Engineering and Automation Technology (MMEAT2019), China.
- 36- S.W. Sharshir, A.H. Elsheikh, E.M.A. Edreis, [M.K.A. Ali](#), R. Sathyamurthy, A.E. Kabeel, J. Zang, N. Yang. Improving the solar still performance by using thermal energy storage materials: A detailed review. **Desalination and Water Treatment**. (SCI, I F: 0.854, Q4)
- 37- K.h. Salman, A.H. Elsheikh, [M.K.A. Ali](#), M. Ashham, H. Zhang. Effect of Cutting Parameters on Surface Residual Stresses in Dry Turning of AISI 1035 Alloy. **Journal of the Brazilian Society of Mechanical Sciences and Engineering**, 2019, 41(8), 349. (SCI, I F: 1.755, Q3)
- 38- M.E. Zayed, S.W. Sharshir, J. Shaibo, F.A. Hammad, K.h. [M.K.A. Ali](#), Salman K.H., A.H. Elsheikh, et al. Application of nanofluids in direct absorption solar collectors (Chapter). In Nanofluids and their engineering applications (Book). **CRC Press/Taylor and Francis Group**, USA, ISBN 978-1-138-73902-4, 2018.

## **2018**

- 39- [M.K.A. Ali](#), P. Fuming, H.A. Younus, M.A.A. Abdelkareem, A. Elagouz, H. Xianjun, Fuel economy in gasoline engines using Al<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub> nanomaterials as nanolubricant additives. **Applied Energy**, 2018, 211(1), 461–478. (SCI, IF: 8.848, Q1).
- 40- [M.K.A. Ali](#), H. Xianjun, M. A.A. Abdelkareem, M Gulzar, A.H. Elsheikh, Novel approach of the graphene nanolubricant for energy saving via anti-friction/wear in automobile engines. **Tribology International**, 2018, doi.org/10.1016/j.triboint.2018.04.004. (SCI, IF: 4.271, Q1).
- 41- [M.K.A. Ali](#), H. Xianjun, F.A. Essa, M.A. A. Abdelkareem, A. Elagouz, S.W. Sharshir, Friction and wear reduction mechanisms of the reciprocating contact interfaces using nanolubricant under different loads and speeds. **Journal of Tribology**, 2018, doi:10.1115/1.4039720. (SCI, IF: 1.829, Q3).
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- 1- [M.K.A. Ali](#), Mohamed A.A. Abdelkareem, A. Elagouz, Hou Xianjun. **Nanolubricant Additives** (Chapter) in *Nanotechnology in the Automotive Industry* (Book). Elsevier, ISBN: 978-0-323-90524-4. 2022
- 2- M.E. Zayed, S.W. Sharshir, J. Shaibo, F.A. Hammad, K.h. [M.K.A. Ali](#), Salman K.H., A.H. Elsheikh, et al. **Application of nanofluids in direct absorption solar collectors** (Chapter). In *Nanofluids and their engineering applications* (Book). CRC Press/Taylor and Francis Group, USA, ISBN 978-1-138-73902-4, 2018.

- 3- [M.K.A. Ali](#), Fawzy M.H. Ezzat & S.W. Sharshir. Effect of Contaminants on the Tribological Performance of Engine Oils (Book). LAMBERT Academic Publishing, ISBN: 978-3-659-76393-9. 2016.

### Patents:

- 1- 侯献军, 陈必成, 蔡清平, 彭辅明, [M.K.A. Ali](#). Tribometer designed to measure the friction behaviour of the piston ring/cylinder liner interface in engines. (一种发动机缸套-活塞环摩擦副摩擦磨损测试系统). Chinese patent (中国专利), Application number: CN105675423A, Patent number: CN105675423B, Priority date: 2016-01-04, Grant date: 2018-03-16.

### ➤ Citation and h-index in Google Scholar and Scopus (at 5/3/2022)

<https://scholar.google.com/citations?user=RJU89YMAAAAJ&hl=en>

<https://www.scopus.com/authid/detail.uri?authorId=56780823900>

[https://www.researchgate.net/profile/Mohamed\\_Ahmed\\_Ali](https://www.researchgate.net/profile/Mohamed_Ahmed_Ali)

The image shows two author profiles side-by-side. The top profile is from Google Scholar, and the bottom is from Scopus.

**Google Scholar Profile:**

- Name:** Mohamed Kamal Ahmed Ali (M.K.A. Ali)
- Position:** PhD, Assistant Professor, Faculty of Engineering, Minia University
- Verified email:** minia.edu.eg - Homepage
- Keywords:** Tribology, Engine Tribology, Nanotribology in Automotive, Nano-Lubricants, Solid Lubricants
- Public Access:** REVIEW
- Co-authors:** ADD
- Cited by Table:**

	All	Since 2017
Citations	2614	2576
h-index	25	25
i10-index	38	38
- Recent Publications:**
  - Applications of nanofluids in solar energy: A review of recent advances (2018, 272 citations)
  - Vibration energy harvesting in automotive suspension system: A detailed review (2018, 247 citations)
  - Improving the tribological characteristics of piston ring assembly in automotive engines using Al<sub>2</sub>O<sub>3</sub> and TiO<sub>2</sub> nanomaterials as nano-lubricant additives (2016, 245 citations)

**Scopus Profile:**

- Name:** Ali, Mohamed Kamal Ahmed
- ORCID:** <https://orcid.org/0000-0002-5652-0262>
- Scopus ID:** 56780823900
- Metrics Overview:**
  - 56 Documents by author
  - 2132 Citations by 1312 documents
  - 24 h-index
- Document & citation trends:**

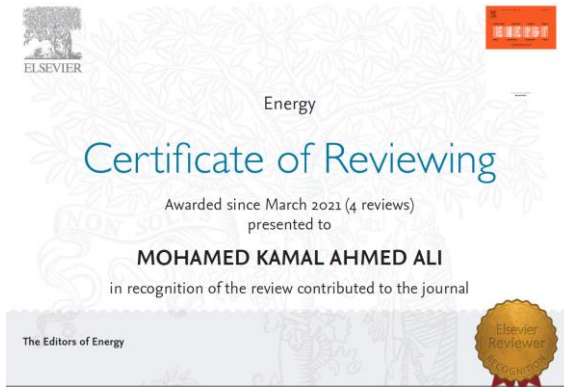
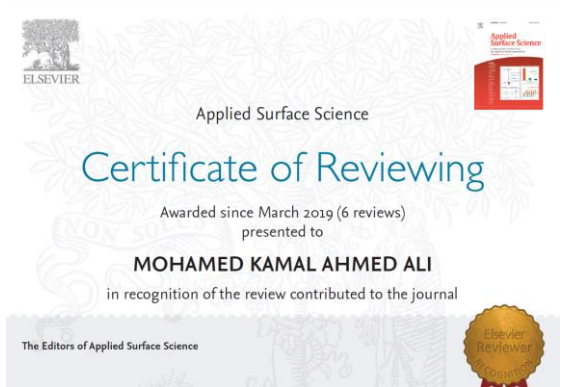
Year	Documents	Citations
2015	1	0
2016	1	0
2017	1	0
2018	1	0
2019	1	0
2020	1	0
2021	1	0
2022	1	678
- Most contributed Topics 2017–2021:**
  - Lubricants; Friction; Tribometers (15 documents)
  - Energy Harvesting; Active Suspension; Dampers (8 documents)
  - Heat Transfer; Heat Transfer Enhancement; Automobile Radiators (5 documents)

At the bottom, a summary bar shows: 56 Documents, Cited by 1312 Documents, 2 Preprints, 80 Co-Authors, 10 Topics, and Awarded Grants.

➤ **List of Journals and Total Impact Factor 2020 (at 20/5/2022)**

No	Journal Title	No. of Papers published in the Journal	Impact Factor of the Journal	Sum of Impact factor	Quartile in Category
1	Applied Energy	2	9.746	19.492	Q1
2	Tribology International	4	4.872	19.488	Q1
3	Wear	1	3.892	3.892	Q1
4	Friction	1	6.167	6.167	Q1
5	Energy	2	7.147	14.294	Q1
5	Journal of Colloid and Interface Science	1	8.128	8.128	Q1
6	Mechanical Systems and Signal Processing	1	6.823	6.823	Q1
7	Energy Conversion and Management	1	9.709	9.709	Q1
8	Nanotechnology Reviews	1	7.848	7.848	Q1
9	Renewable & Sustainable Energy Reviews	1	14.982	14.982	Q1
	Advanced Powder Technology	2	4.833	9.666	Q1
10	Powder Technology	1	5.134	5.134	Q1
11	Process Safety and Environmental Protection	1	6.158	6.158	Q1
12	Journal of Advanced Research	1	10.479	10.479	Q1
13	Journal of Molecular Liquids	4	6.165	24.66	Q1
14	Measurement	1	3.927	3.927	Q1
15	Tribology Letters	2	3.106	6.212	Q2
16	Sustainability	1	3.251	3.251	Q2
17	Solar Energy	1	5.742	5.742	Q2
18	Surface Topography: Metrology and Properties	2	2.038	4.076	Q3
19	RSC Advances	1	3.361	3.361	Q2
20	Surface Engineering	1	3.169	3.169	Q2
21	Journal of Tribology	1	2.045	2.045	Q3
22	Proceedings of the institution of mechanical engineers part k-journal of multi-body dynamics	2	1.713	3.426	Q3
23	Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering	1	1.484	1.484	Q4
24	Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology	2	1.674	3.348	Q3
25	Journal of Materials Engineering and Performance	1	1.819	1.819	Q3
26	Journal of Nanoparticle Research	2	2.253	4.506	Q3
27	Journal of the Brazilian Society of Mechanical Sciences and Engineering	1	2.22	2.22	Q2
28	Desalination and Water Treatment	1	1.254	1.254	Q4
29	Materials Research Express	1	1.62	1.62	Q4
<b>Total Impact Factor</b>				<b>218.38</b>	











جمهورية مصر العربية  
وزارة التعليم العالي  
الوزير

**السيد الدكتور / محمد كمال أحمد على**  
**مدرس بكلية الهندسة - جامعة المنيا**

**تحية طيبة وبعد،،،**

يطيب لى أن أبعث لسيادتكم بأرق التهانى القلبية وأطيب  
التمنيات بمناسبة فوزكم بجائزة الدولة التشجيعية فى مجال العلوم الهندسية  
لعام 2020.

وكلى ثقة أنكم ستواصلون عطاؤكم المتميز للعلم من أجل رفعة  
شأن مصر التى تولى اهتماماً خاصاً لأبنائها المتميزين فى مختلف  
التخصصات العلمية ، مع أطيب التمنيات بدوام التوفيق والسداد فى  
خدمة العلم ووطننا العزيز .

**وتفضلوا بقبول فائق الاحترام والتقدير،،،**

**وزير التعليم العالى والبحث العلمى**

( أ.د / خالد عبد الغفار )

العلاقات العامة

## ملخص للسيرة الذاتية باللغة العربية



الإسم/ محمد كمال أحمد على تاريخ الميلاد/ 15-2-1985

التخصص الدقيق/ هندسة السيارات

التخصص العام/ الهندسة الميكانيكية

الوظيفة/ مدرس بقسم هندسة السيارات والجرارات - كلية الهندسة - جامعة المنيا

الايمل / [Eng.m.kamal@mu.edu.eg](mailto:Eng.m.kamal@mu.edu.eg) رقم التليفون/ 002/01020068536 (Egypt)

### الدرجات العلمية

بكالوريوس:	هندسة السيارات - جامعة المنيا	تاريخ: مايو 2009 (تقدير تراكمي: امتياز مع مرتبة الشرف)
ماجستير:	هندسة السيارات - جامعة المنيا	تاريخ: 10/12/2013 (تقدير: امتياز)
دكتوراه:	هندسة السيارات - جامعة ووهان للتكنولوجيا بالصين.	تاريخ: 2017/6/19 (تقدير: امتياز)

### التاريخ الوظيفي

معيد:	كلية الهندسة - جامعة المنيا	تاريخ: 2010 / 24/1
مدرس مساعد:	كلية الهندسة - جامعة المنيا	تاريخ: 2014 / 1 / 27
مدرس:	كلية الهندسة - جامعة المنيا	تاريخ: 2017/ 8 / 29

### المهام العلمية

- حصل على مهمة علمية في جامعة ووهان للتكنولوجيا بدولة الصين لمدة عامين من 2017/10/30 الى 2019/10/20

### الانجازات العلمية والجوائز العلمية

- نشر العديد من الابحاث العلمية المحكمة في الدوريات العلمية المتخصصة والمصنفة طبقا (SCI) Science Citation Index وكانت تهدف الابحاث الى تحسين الاداء الترابولوجي والاقتصاد في استهلاك الوقود وتقليل الانبعاثات الضارة بيئيا من محركات السيارات.
- محرر مشارك في مجلة كلية الهندسة جامعة المنيا (Journal of Advanced Engineering Trends, ISSN 2682-2091).
- مستشار أكاديمي في أكاديمية Publons التابعة لدار النشر العالمية Elsevier.
- المشاركة في براءة اختراع منشورة باللغة الصينية عن تصميم جهاز يحاكي الحركة الترددية داخل محركات السيارات.
- نشر كتاب كمؤلف أول وشارك في كتاب اخر منشور في CRC Press/Taylor and Francis Group, USA.
- حاصل على مشروع بتمويل مليون ونصف جنية مصرى من STDF بمصر وشارك CO-PI في المشروع البحثي الممول من المؤسسة الوطنية للعلوم الطبيعية في الصين (NSFC) من 2019 إلى 2022.
- اقضى مهمة علمية لمدة عامين بمدرسة السيارات ب جامعة ووهان للتكنولوجيا - بدولة الصين.
- مراجع للابحاث العلمية في العديد من الدوريات العلمية المصنفة والمتخصصة مثل (Q1) Tribology International وحصل على افضل 10% من المراجعين بداخل المجلة لعام 2017.
- منحت رسالة الدكتوراة الخاصة به على تقييم رسالة دكتوراة ممتازة لعام 2017 من جامعة ووهان للتكنولوجيا - الصين.
- حصل على جوائز النشر العلمى الدولى خلال الثلاث سنوات الماضية 2016-2017-2018-2019 من جامعة المنيا وجامعة ووهان للتكنولوجيا بالصين.
- الحصول على "نوط الامتياز" دفعة 137 - عام 2010 اثناء تادية الخدمة العسكرية ضابط احتياط من كلية الطباط الاحتياط - القوات المسلحة المصرية.
- حصل على جائزة جامعة المنيا التشجيعية في العلوم الهندسية والتكنولوجية لعام 2019.
- **حصل على جائزة الدولة التشجيعية في العلوم الهندسية لعام 2020**

### نبذة مختصرة عن الإنتاج العلمى

الابحاث الخاصة بالدكتور/ محمد كمال أحمد على تقدم حلول تطبيقية واقتصاديته لتحسين أداء محركات السيارات عن طريق تحسين السلوك الترابولوجي للاجزاء الاحتكاكية بالمحرك لتقليل استهلاك الوقود والتلوث البيئي بواسطة استخدام الجسيمات النانوية كأضافات صديقة للبيئة في زيوت التشحيم لمحركات السيارات. والنتائج العملية لهذه الدراسات أدت بالفعل الى تقليل استهلاك الوقود بنسبة %12-7 وتم نشر اغلب النتائج في مجلات علمية المتخصصة مصنفة (Q1(A). هذا يترجم في نهاية المطاف إلى استخدام محركات اقتصادية وصديقة للبيئة ذات كفاءة عالية وبالتالي قد يكون الاتجاه المناسب لقمع تكلفة استهلاك الوقود للحفاظ على موارد الطاقة المستهلكة في المركبات وحماية البيئة.



الحصول على "نوط الامتياز" دفعة 137 - عام 2010 اثناء تادية الخدمة العسكرية ظابط احتياط من كلية الضباط  
الاحتياط - القوات المسلحة المصرية



قيادة الجيش الثاني الميداني  
شعبة الإمداد والتموين  
الكتيبة ٤٦ نقل مختلط

شهادة

تشهد الكتيبة ٤٦ نقل مختلط بان الملازم أ/ محمد كمال احمد علي ، من الدفعة (١٣٧) ضباط احتياط ، وانه يعمل بالوحدة كضابط شئون فنية وقائد الورشة ويقوم بجميع مهامه علي أكمل وجه ويتميز بالانضباط العسكري ويتبع جميع التعليمات والأوامر العسكرية وله القدرة علي التوجيه والسيطرة علي أفراد وحدته الفرعية الصغرى.

وهذه شهادة منا بذلك،

T

التوقيع /  
عقيد / السيد ممدوح العريني  
قائد كتيبة ٤٦ نقل مختلط