

| Contact Information | | | |
|--|--------------------------------------|---|--|
| Name: Waleed Samy Abdalla Mohamed Zaraa | | | |
| Address: Saint May- Mit Ghamr - Dakhlia | | | |
| Phone contacts: : +201222359080 - +201022301707 | | | |
| Email address: wsamy@horus.edu.eg | | | |
| Google scholar: https://scholar.google.com.eg/citations?hl=en&user=pyzsFooAAAAJ | | | |
| Research gate: https://publons.com/dashboard/records/publication/authored/ | | | |
| Web of science: | | | |
| ORCID: https://orcid.org/0000-0001-5089-2690 | | | |
| SCOPUS: | | | |
| Education/ Academic qualifications (start with your most recent education first) | | | |
| Year | School / University | Specialization | Degree |
| Oct 2014 | Zagazig Univ. Faculty of Engineering | Mechanical Design & Production Engineering. | PhD |
| June 1998 | Zagazig Univ. Faculty of Engineering | Mechanical Design & Production Engineering. | MSc |
| May, 1992 | Zagazig Univ. Faculty of Engineering | Mechanical Design and Power Engineering. | BSc |
| Academic Employment History (start with your most recent education first) | | | |
| From: | To: | University / Organization | Title of Position |
| Oct 2020 | Present | Mechanical Design and Production Dept., Zagazig Univ. Mechatronic Dept., Horus Univ. | Associate Professor |
| Oct 2014 | Oct 2020 | Mechanical Design and Production Dept., Zagazig Univ. | Assistant Professor, |
| June 1998 | Oct 2014 | Mechanical Design and Production Dept., Zagazig Univ. | Research and Teaching Assistant |
| June 1993 | June 1998 | Mechanical Design and Production Dept., Zagazig Univ. | Demonstrator, |
| Administrative Positions: | | | |
| From: | To: | University / Organization | Title of Position |
| 2021 | Present | Faculty of Engineering, Horus Univ. | Head of Basic Science Dept. |
| 2015 | 2017 | Mechanical Design and Production Dept., Faculty of Engineering, Horus Univ. | Internal reviewer of the undergraduate course program for the accreditation |

I do hereby declare that the information furnished above is true to the best of my knowledge .

Name: Waleed Samy Abdalla Mohamed Zaraa

Signature:

Teaching Experience (Courses, Language, Higher Education Only)

➤ **Served as Instructor for the following courses:**

- Engineering Drawing.
- Production Technology.
- Mechanical Engineering Drawing.
- Computer Aided Drawing (**CAD using SolidWorks**).
- Mechanical Engineering Design.
- Computer Aided Design.
- Mechanical Systems Design.
- Tribology.
- Engineering Mechanics (Statics & Dynamics).
- Theory of Machines.
- Theory of Vibrations.
- Mechanics of Deformable Bodies.
- Applied Mechanics.
- Mechanics of Materials.
- Composite Materials.
- Numerical Methods for Engineering (Numerical Analysis).
- Finite Element Analysis.
- Theory of Elasticity.
- Theory of Plasticity.
- Hydraulic Systems.

Publications:

- 1- A.G. EL-Shafei, F.F. Mahmoud and W.S. Abdalla, (2003). An Adaptive Incremental Procedure for Solving Elasto-Plastic Non-Conformal Contact Problems. Ain Shams Engineering Journal, 38(4), 795-812.
- 2- Abdalla, W., Ali-Eldin, S. and Ghazy, M. (2013). Modeling and solution of frictional contact problems using finite element method. Emirates Journal for Engineering Research 18 (1), 25-32.
- 3- Abdalla, W., Ali-Eldin, S. and Ghazy, M. (2014). Adaptive incremental finite element procedure for solving elastoplastic frictional contact problems subjected to normal and tangential loads. International Journal of Applied Mechanics 6(3), 30.
- 4- Abdalla, W. S., Ali-Eldin, S. S. and Ghazy, M. R. (2014). The influence of the elastoplastic behavior and the load pattern on the tribological properties of two-dimensional frictional contact problems. Journal of Tribology 136(3), 031402.
- 5- Abdalla, W. S., Ali-Eldin, S. S. and Ghazy, M. R. (2014). A numerical incremental procedure for solving non-linear elastoplastic frictional contact problems under normal load. The Egyptian Int. J. of Eng. Sci. and Technology 17(2), 1840-1858.
- 6- S. A. Emam, M. A. Eltaher, M. E. Khater and W. S. Abdalla, (2018) "Postbuckling and Free Vibration of Multilayer Imperfect Nanobeams under a Pre-Stress Load", Appl. Sci. 2018, 8, 2238; doi:10.3390/app8112238

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- 7- Eltaher, M.A.; Omar, Fatema-Alzahraa; Abdalla, W. S.; Gad, E. H., (2019). Bending and Vibrational Behaviors of Piezoelectric Nonlocal Nanobeam Including Surface Elasticity. *Waves in Random and Complex Media* (TWRM); Accepted & in production; Article ID: TWRM 1429693, Taylor & Francis Group.
- 8- Ayman E. Nabawy, Alaa A. Abdelrahman*, Waleed S. Abdalla, Ayman M. Abdelhaleem and Soliman S. Alieldin, (2019), “Analysis of the Dynamic Behavior of the Double Wishbone Suspension System”, *International Journal of Applied Mechanics* 11(34).
- 9- Soliman S. Ali-Eldin, Sara M. Abd El-Moezz, M. Megahed, & W. S. Abdalla, (2019). Development of composites from polyester reinforced with rice straw and with hybrid rice straw/glass fiber. *Mansoura Engineering Journal*, 44(4), Dec. 2019. - ISSN: 1110-0141.
- 10- Soliman S. Ali-Eldin, Sara M. Abd El-Moezz, Mona Megahed, & Waleed S. Abdalla, (2019). Study of Hybridization Effect of New Developed Rice Straw mat/Glass Fiber Reinforced Polyester Composite. *Journal of Natural Fibers*, <https://doi.org/10.1080/15440478.2019.1688749>.
- 11- M. Megahed, Soliman S. Ali-Eldin, Sara M. Abd El Moezz, & W. S. Abdalla, (2020). Synthesis of developed rice straw sheets and glass fiber-reinforced polyester composites. *Journal of Composite Materials*, 0021998320915641, 0(0), 1-14. <https://doi.org/10.1177/0021998320915641>.
- 12- 6. Mohamed A. Eltaher, Fatema-Alzahraa Omar, Azza M. Abdraboh, Waleed S. Abdalla, & Amal E. Alshorbagy, (2020). Mechanical behaviors of piezoelectric nonlocal nanobeam with cutouts. *Smart Structures and Systems*, 25(2), 219-228. <https://doi.org/10.12989/sss.2020.25.2.219>.
- 13- Mohamed A. Eltaher,, Fatema-Alzahraa Omar, Waleed S. Abdalla, Abdallah M. Kabeel, and Amal E. Alshorbagy. “Mechanical Analysis of Cutout Piezoelectric Nonlocal Nanobeam Including Surface Energy Effects.” *Structural Engineering and Mechanics* 76, no. 1 (2020): 141–51. doi:10.12989/SEM.2020.76.1.141.
- 14- Alaa, Abdelrahman & Ashry, Mohamed & Alshorbagy, Amal & Abdallah, Waleed. (2021). On the mechanical behavior of two directional symmetrical functionally graded beams under moving load. *International Journal of Mechanics and Materials in Design*. 17(3). 563-586. DOI: 10.1007/s10999-021-09547-9.
- 15- Fatema-Alzahraa Omar, W. S. Abdalla, M.A. Eltaher, Amal E. Alshorbagy. A brief review of piezoelectric energy harvesting: state-of-the-art a decade later (2011–2021). ICESA 2021 Second International Conference for Engineering Sciences and Applications. Theme: Engineering Future to Ensure Sustainability 21-23 October/ Egypt; website :

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Other Relevant Experience

➤ PROFESSIONAL SKILLS

- Published many papers in top refereed journals.
- Excellent teaching skills acquired through teaching numerous courses (Graduate and Undergraduate).
- Attending different training programs in university teaching.
- Proven written and oral communication skills through various publications.
 - Attending the *enhancement academic courses for faculty members*:

| | | | |
|----|--|---|--------------|
| 1 | Scientific Research Methods | أساليب البحث العلمي | 28-31/1/2006 |
| 2 | Ethics and ethics of the profession | أخلاقيات و آداب المهنة | 7-9/2/2006 |
| 3 | Effective teaching | التدريس الفعال | 6-9/8/2006 |
| 4 | Recent trends in teaching | الإتجاهات الحديثة في التدريس | 26-28/8/2006 |
| 5 | Effective presentation skills | مهارات العرض الفعال | 9-11/9/2006 |
| 6 | Use of technology in teaching | إستخدام التكنولوجيا في التدريس | 12-14/9/2006 |
| 7 | Management of the research team | إدارت الفريق البحثي | 13-14/9/2015 |
| 8 | Financial and legal aspects of university work | الجوانب المالية و القانونية في الأعمال الجامعية | 7-8/2/2016 |
| 9 | Credit Hours System | نظام الساعات المعتمدة | 9-10/2/2016 |
| 10 | Exam systems and evaluation of students | نظم الإمتحانات و تقويم الطلاب | 5-6/6/2016 |
| 11 | Organizing scientific conferences | تنظيم المؤتمرات العلمية | 7-8/6/2016 |

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➤ **Postgraduate Supervision**

| Thesis Type | Title | Status |
|-------------|---|---------------------------|
| M. Sc. | Vibration analysis of smart function graded nanobeam. | Completed (2015-2018) |
| M. Sc. | Processing and characterization of Hybrid Natural /Glass fiber-reinforced polymer composites. | Completed (2016-2020) |
| Ph. D. | Laser Beam Welding of Ultrahigh Mechanical Properties Armor Steel. | (2017- Under Progress) |
| M. Sc. | Nonlinear Analysis of Functionally Graded Cracked Materials. | (2020- Completed) |
| Ph. D. | Dynamic Analysis of Piezoelectric Micro-Structure with Fluid Interaction. | (2020- Under Progress) |
| M. Sc. | Manipulator Control Based on Brain Computer Inter Face Using Deep Learning | (2021- Under Progress) |

➤ **LEADERSHIP SKILLS**

• Supervised several graduate students on multiple subjects, as the following B. Sc. Projects (Zagazig University, Egypt):

- 1- **Design** of the Isuzu NPR car gear box.
- 2- **Inverse design** of the three-wheel vehicle.
- 3- **Design and production** of tension, compression and combined stress testing machine.
- 4- **Supervisor** of the ZUFS (Zagazig University Formula Student) Racing Team (2015-2017). ZUFS Team is the first team from "Zagazig University" to **design, manufacture, test, and market** a formula racing car to compete at Formula Student. *The team had participated in [the formula student competition 2015 at England](http://www.imeche.org/events/formula-student/previous-events) and had ranked the 4th position for the design module, <http://www.imeche.org/events/formula-student/previous-events>; [formula-student-2015-results-class2-master-iss1.pdf](http://www.imeche.org/events/formula-student/previous-events).*
- 5- **Study** of the mechanical properties of the polymer composite materials supported by rice straw as major fiber (2015/2016).
- 6- **Design and Computer simulation** of Human Powered Vehicle (HPV). *The students had participated in the international competition ASME HPVC 2017 located at Cookeville, Tennessee, USA.* The team was the only team that reached the competition from Africa.
- 7- **Design**, modeling and test of a speed bump energy harvester (2017)
- 8- **Design** of electronic Turnstile operating with central computer system, (2017).

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- 9- **Design and manufacturing of a C-type hydraulic press of 25 ton capacity (2018).**
- 9- **Processing** and characterization of natural filler and natural fiber reinforced polymer composites (2018).
- 10- **Design**, modeling and vibration analysis of a vehicle chassis structure (2019).
- 11- Material Handling Equipment Design and Control (Passengers Elevators), Mechatronics Dept., Horus Univ.

➤ **COMPUTER SKILLS**

- Programming Languages: FORTRAN.
- Technical Software: Solid Works, ANSYS, Grapher, Surffer, MS-Office.
- Professional Scholarly Writing: MS-Word.

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