

Assoc. Prof. Dr. Rania Mostafa Mahmoud, Ph.D., Production Engineering



Summary

Assoc. Prof. Dr. Rania Mostafa is a member of *Production Engineering and Mechanical Design department, Faculty of Engineering, Mansoura University, Egypt*. She joined Mansoura College institute since 2018 as a member of the basic science Department. She received his Ph.D. in 2014 from *Mansoura University, Faculty of Engineering, Prod. Eng. & Mech. Design Depart*. Dr. Rania is a Production and mechanical design engineer with specialist competence in the broad areas of Production Technology and material science. Dr. Rania's current research and teaching interest is in the areas of Machining, forming technology, Engineering Drawing, Project management, Quality Control, theory of machines and Engineering materials. she consults in the area of Machining Technology.

- Strong research background. Authored and co-authored more than 16 research papers. Published and presented in the reputed Mechanical engineering journals.
- Extensive research experience on Production Technology and Material science.
- Expertise on Metal cutting, shape optimization, friction stir welding, Micro forming, corrosion, CAD/CAM, Finite Element Analysis.
- Teaching of many courses related to Production and mechanical Engineering

Education

Jun. 2008 – Nov. 2014: Ph.D. in *Production Engineering and Mechanical Design*. From *Mansoura University, Faculty of Engineering, Prod. Eng. & Mech. Design Depart*.

Sep.1999– Sep. 2006: M.Sc. *Production Engineering and Mechanical Design*. From *Mansoura University, Faculty of Engineering, Prod. Eng. & Mech. Design Depart*

Sep.1992 – May 1997: B.Sc. *Production Engineering and Mechanical Design*. From *Mansoura University, Faculty of Engineering, Prod. Eng. & Mech. Design Depart*

Professional Experience

Aug. 2020 – Present

Associated Professor, Basic Science Department, The High Institute of Engineering and Technology in Mansoura, Egypt. Duties include conducting research work, supervising graduate students and teaching undergraduate

courses (Industrial Engineering, Engineering Drawing and Quality Control)

Sep. 2018 – July 2020:

Lecturer, Basic Science Department, The High Institute of Engineering and Technology in Mansoura, Egypt. Duties include conducting research work, supervising graduate students and teaching undergraduate courses (Industrial Engineering, Engineering Drawing and Quality Control)

Nov. 2014 – July 2018:

Lecturer, Production Engineering and Mechanical Design Department, Mansoura University, Egypt. Duties include conducting research work, supervising graduate students and teaching undergraduate courses (Machining Techniques and Equipment, Theory of metal cutting, Theory of machines, Project management, Engineering Materials and Production Technology)

Jun. 2007 – Sep. 2014:

Assistant Lecturer, Production Engineering and Mechanical Design Department, Mansoura University, Egypt.

Duties include conducting research work, supervising graduate students and teaching undergraduate courses (Machining Techniques, Theory of metal cutting, Theory of machines, Project management, Engineering Materials, Mechanical Design, Machine Element Design and Production Technology)

Sep 1999 – Oct. 2006: **Assistant researcher**, Production Engineering and Mechanical Design Department, Mansoura University, Egypt.

Duties include conducting research work, supervising graduate students and teaching undergraduate courses (Machining Techniques, Theory of metal cutting, Theory of machines, Project management, Engineering Materials, Mechanical Design, Machine Element Design and Production Technology)

Continuing Education and Personal development

- ICDL

- Preparation Course for lecturer دورة اعداد المعلم الجامعى

- Management of time and work pressure ادارة الوقت و ضغوط العمل

- Effective Presentation Skills مهارات العرض الفعال
- Codes of Ethics آداب و أخلاقيات المهنة
- Methods of Scientific research أساليب البحث العلمى
- Technology usage in Teaching استخدام التكنولوجيا فى التدريس
- Examination and evaluation of students' systems مهارات الاتصال فى انماط التعليم المختلفة
- Quality standards in the teaching process معايير الجودة فى العملية التدريسية
- The application of academic standards for education program تطبيق المعايير الأكاديمية للبرنامج التعليمى
- Credit hour system نظام الساعات المعتمدة
- University administration الادارة الجامعية
- The research team administration ادارة الفريق البحثى
- How to write scientific research كيفية كتابة المقالة العلمية
- Financial and legal aspects of the undergraduate Business الجوانب المالية والقانونية فى الاعمال الجامعية
- توصيف البرامج والمقررات واعداد المصفوفات لمؤسسات التعليم العالى
- التقويم الذاتى لمؤسسات التعليم العالى
- استخدام وسائل التكنولوجيا فى اعداد المقررات الدراسية (برنامج المودبول)
- اعداد وتصميم الاختبارات الالكترونية
- تصميم المواقع الشخصية لاعضاء هيئة التدريس

Publications, Technical Reports & Presentations

Refereed Journal Publications

- 1- Fatma Elplacy, Magdi Samuael and **Rania Mostafa**, “**Modeling and simulation of hot direct extrusion process for optimal product characteristics: Single and multi-response optimization Approach**”, Advanced Production Engineering and Management, Vol. xxx, No. xx, 2022, under publication.
- 2- Hazem Hasan El kotb, A. A. Abdel Samad, **Rania Mostafa** and Tawakol A. Enab, “**Manufacturing and Characterization of Functionally Graded Material Automotive Piston Using Centrifugal Casting Technique**”, Solid State phenomena, Vol. 318, May 2021.

- 3- Sara A. El-Bahloul and **Rania Mostafa**, “*Experimental and Statistical Optimization Of Wire-EDM For Hipped (HIP) Udimet700*”, International Journal of Mechanical & Mechatronics Engineering, Vol. 21, No. 1, Feb. 2021.
- 4- Y.M. Abdallah, Hesham Elzanaty, **Rania Mostafa** and K. Shalabi, “*The effect of TiB₂ on electrochemical performance of Udimet 700 alloy in 1 M Hydrochloric Acid Solution and its corrosion inhibition using some organic derivatives*”, Protection of metals and Physical Chemistry of Surfaces, Vol. 56, Issue 5, Sep 2020.
- 5- **Rania Mostafa**, Reham Al-Mahdy, Ahmed El-Keran, “*A Multi-Response Optimization of FSW process parameters on AA5052-H111 using Taguchi Method*”, International Journal of Mechanical & Mechatronics Engineering, Vol.20, Issue 01, Feb 2020.
- 6- Hesham Elzanaty and **Rania Mostafa**, “*Influence of Some Organic Derivatives on the Corrosion Inhibition of Udimet700 Alloy in 1 M HCl Solution*”, Journal of Surface Science and Technology, Vol. 35, Issue (3-4), pp140-150, Dec 2019.
- 7- N. Fouda, **Rania Mostafa**, Saker A, “*Numerical study of stress shielding reduction at fractured bone using metallic and composite bone-plate models*”, Ain Shams Engineering Journal, Vol.10, Issue 3, pp 481-488, Sep 2019.
- 8- N. Fouda, **Rania Mostafa**, Saker A, “*Numerical study for new metallic and composite bone-plates model: Improving the fixation technique performance*”, International Journal of Scientific & Engineering Research, Vol.9, Issue 9, pp 446-456, Sep 2018.
- 9- Abdelkhalik Eladl, **Rania Mostafa**, Aminul Islam, Dario Loaldi, Hassan Soltan, Hans N. Hansen and Guido Tosello, “*Effect of Process Parameters on Flow Length and Flash Formation in Injection Moulding of High Aspect Ratio Polymeric Micro Features*”, Micromachines, Vol.9, PP58, Feb 2018.
- 10- Abdelkhalik Eladl, Guido Tosello, **Rania Mostafa**, Hassan Soltan and Hans N.Hansen “*Investigation of process parameters influence on flash formation in injection moulding of polymer micro features through design of experiments*”, euspen’s 17th Int. Conference & Exhibition, Hannover, DE, 2017
- 11- Hassan Soltan, **Rania Mostafa** and Saria Ashry, “*Statistical Analysis of Corrosion Defects in Pipelines*”, Mansoura Engineering Journal (MEJ), Vol. 98, Issue 14, March 2017.

- 12- **Rania Mostafa**, “*Simultaneous manufacturing shape optimization for minimum cost of milling using interior point method*”, The International Journal of Advanced Manufacturing Technology, Vol. 91, Issue 5–8, pp1531–1538, 2017.
- 13- Tawfik T. El-Midany, M. Fanni and **Rania Mostafa**, “*Simultaneous Manufacturing/Structural Shape Optimization for Minimum Product Cost*”, Mansoura Engineering Journal (MEJ), Vol. 39, Issue 3, June 2014.
- 14- Roshdy A. AbdelRassoul, **Rania M. Mohamed**, ElSayed M. A. Rassoul and Nair Bakr, “*Deposition and Characterization of Vacuum-Evaporated II-VI Semiconductor Thin Films for Photovoltaic Application*”, Proceedings of the Third International Conference on Thermal Engineering: Theory and Applications May 21-23, 2007, Amman, Jordan (ICTEA 2007)
- 15- Roshdy A. AbdelRassoul, **Rania M. Mohamed**, ElSayed M. A. Rassoul and Nair Bakr, “*Effect of Annealing on Optical Properties of II-VI Semiconductor Thin Films Prepared by Vacuum Evaporation for Photovoltaic Application*” International Conference On Sustainable Energy: Technologies, Materials & Environmental Issues And Workshop on Concentrator Photovoltaic Technology Oct., 29 – Nov.1st, 2007 Cairo-EGYPT, Cairo Marriott Hotel (ICSE07 Conference)
- 16- **Rania M.M. Mohamed**, Roshdy A. AbdelRassoul, and ElSayed M. A. Rassoul: “*Prospects of Photovoltaics as a Clean Source of Energy in Egypt*”, Fourth Conference "the prospects for scientific research and technological development in the Arab world," Library of Alexandria - Arab Republic of Egypt, 22-25 April, 2006.

Theses Supervised to Completion

- 1- (2014) “Investigation of Micro Injection Moulding Processes for Multiple Quality characteristics”, Mansoura University, Egypt. (*PhD. Thesis*)
- 2- (2015), “Improving the performance of fractured bone plates using finite element analysis”, Mansoura University, Egypt. (*Master Thesis*)
- 3- (2015), “Analysis of Corrosion Defects in Buried Pipeline”, Mansoura University, Egypt. (*Master Thesis*)
- 4- (2015), “Friction stir welding technic for welding two flat plates of Aluminum alloy”, Mansoura University, Egypt. (*Master Thesis*)

- 5- (2016), “Thermo-mechanical FEM analysis of engine piston manufactured from or coated with functionally graded materials” Mansoura University, Egypt. (*Master Thesis*)
- 6- (2017), “Thermo-mechanical FEM analysis of functionally graded materials engine piston” Mansoura University, Egypt. (*Master Thesis*)
- 7- (2017) “A computer vision approach for image texture-based metals classification”, Mansoura University, Egypt. (*PhD. Thesis*).
- 8- (2019) “Micro-shear Bond Strength of Repair System to Different Hybrid Ceramic Materials Using Different Surface Treatment Protocols”, Mansoura University, Egypt. (*Master Thesis*)
- 9- (2019) “Impact of Different Wax Pattern Construction Methods on the Marginal Accuracy of Pressable Ceramic Crown”, Mansoura University, Egypt. (*Master Thesis*)
- 10- (2019), “Study the effect of Extrusion parameters of Aluminum Alloys upon product Eccentricity”, Mansoura University, Egypt. (*Master Thesis*)
- 11- (2020), “Minimizing the production cost of the cam follower profile using shape optimization techniques”, Mansoura University, Egypt. (*Master Thesis*)