

1- Personal Details

Name : Osama Ahmed Mohamed Abdelaal
Date of Birth : July 02, 1983
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2- Area of specialization:

| | |
|--------------|--|
| Major | Mechanical Engineering |
| Minor | Mechanical design and production engineering |

3- Education & Qualifications

| Date | Degree | University name | Country | Title of the Dissertation |
|------|--------|---|---------|--|
| 2005 | B.Sc. | Assiut University | Egypt | "Reverse Engineering of a Mechanical Press Using Computer- Aided Design and Engineering (CAD/CAE)" |
| 2009 | M.Sc. | Assiut University | Egypt | "Influence of Journal Groove Geometry on the Performance of Oil- Lubricated Grooved Journal Bearings". |
| 2014 | Ph.D. | Egypt-Japan University of Science and Technology-(E-JUST) | Egypt | "Development of Innovative Hip Implant Using Functionally Graded Auxetic Structures" |

4- Professional Activities:

| Job Title | Place | Country | From | To |
|----------------------|--|--------------|------------|--------------|
| Demonstrator | Faculty of Engineering, Assiut University, | Egypt | 2006 | 2010 |
| Assistant Lecturer | Faculty of Engineering, Assiut University | Egypt | 2010 | 2014 |
| Assistant Professor | Faculty of Engineering, Assiut University | Egypt | 2014 | 2021 |
| Post-Doctoral Fellow | Department of Material Science (Lehrstuhl für Werkstoffkunde: LWK), Paderborn University | Germany | April 2016 | October 2016 |
| Associate Professor | Faculty of Engineering, Assiut University | Egypt | 2021 | present |
| Assistant Professor | College of Engineering, Majmaah University | Saudi Arabia | Feb.2017 | Present |

5- Teaching Experiences

| # | Teaching Experiences | University | From | To |
|----------------------------|---|----------------------------------|------|---------|
| Undergraduate level | | | | |
| 1 | Nondestructive Examination of Materials | Majmaah University, Saudi Arabia | 2018 | Present |
| 2 | Engineering Mechanics | Majmaah University, Saudi Arabia | 2017 | 2020 |
| 3 | Tribology | Assiut University, Egypt | 2005 | 2008 |
| 4 | Engineering metrology | Majmaah University, Saudi Arabia | 2014 | 2016 |

| | | | | |
|----------------|--|--|------|---------|
| | | Assiut University, Egypt) | | |
| 5 | Engineering statistics and Quality control | Assiut University, Egypt | 205 | 2007 |
| 6 | Design of machinery | -Assiut University, Egypt -Al Azhar University, Egypt -Majmaah University, Saudi Arabia | | |
| 7 | Production engineering | Al Azhar University, Egypt (Assiut University, Egypt) (Majmaah University, Saudi Arabia) | 2014 | 2015 |
| 8 | Metal forming theory and it's applications | Sohag University, Egypt | 2014 | 2016 |
| 9 | CAD, CAM, CAE | Sohag University, Egypt (Majmaah University, Saudi Arabia) (Assiut University, Egypt) | 2014 | present |
| 10 | Engineering materials and it's applications | Assiut University, Egypt (Majmaah University, Saudi Arabia) | 2014 | 2019 |
| 11 | Theory of metal cutting | -Assiut University, Egypt -Majmaah University, Saudi Arabia) | 2014 | 2017 |
| 12 | Machine drawing and construction | -Assiut University, Egypt -Majmaah University, Saudi Arabia) | 2005 | 2019 |
| 13 | Mechanical engineering laboratories | Assiut University, Egypt | 2014 | 2017 |
| 14 | Senior Design Projects | Assiut University, Egypt | | |
| 15 | Stress Analysis | Assiut University, Egypt | 2014 | 2017 |
| 16 | Mechanical workshops | Health Technical Institute- Assiut branch | 2017 | Present |
| Graduate level | | | | |
| 1 | Design of machinery | Sugar Technology Research Institute, Egypt | 2014 | 2015 |
| 2 | Advanced topics in machine design | Assiut University, Egypt | 2014 | 2015 |
| 3 | Mechanical Behavior of Engineering Materials | Assiut University, Egypt | 2014 | 2015 |

6- Areas of Specialization

| # | Areas of Specialization |
|---|--|
| 1 | Computer Aided Design (CAD), Computer Aided Manufacturing (CAM), Computer Aided Engineering (CAE), Reverse Engineering (RE), Tribology, 3D Printing/Additive manufacturing, materials characterization, Auxetic materials, and Lattice structures. |
| 2 | Custom design, analysis and manufacturing of biomedical implants, Prostheses, Tissue Engineering scaffolds and medical and sports devices. |

7- Current membership in professional organizations

| # | Membership | ID |
|---|---|----|
| 1 | Member in the Egyptian Syndicate of Engineers. | |
| 2 | Member in the Society for the Advancement of Material and Process Engineering (SAMPE®). | |
| 3 | Member in the Engineering Consultations Center, Assiut University, Egypt. | |

8- Publications (most important publications in the last 5 Years)

| # | Publications / Presentations | Journal (Conference) | Publishing Year (Conference Date) |
|---|---|--|-----------------------------------|
| 1 | "Adaptive neuro-fuzzy inference system for modelling the effect of slurry impacts on PLA material processed by FDM", December. | Polymers | 2020 |
| 2 | Osama Abdelaal , Mahmoud Heshmat, Yasser Abdelrhman "Experimental investigation on the effect of water-silica slurry impacts on 3D-Printed polylactic acid", | Tribology International, | 2020 |
| 3 | Saleh Ahmed Aldahash, Osama Abdelaal , Yasser Abdelrhman "Slurry Erosion–Corrosion Characteristics of As-Built Ti-6Al-4V Manufactured by Selective Laser Melting",. | Materials | 2020 |
| 4 | Osama Abdelaal , Saied Darwish, Khaled Abd Elmougoud, Saleh Aldahash, "A new methodology for design and manufacturing of a customized silicone partial foot prosthesis using indirect additive manufacturing", | The International Journal of Artificial Organs | 2019 |
| 5 | Osama Abdelaal , Saied Darwish, Hassan El-Hofy, Yoshio Saito "Patient-specific design process and evaluation of a hip prosthesis femoral stem" | The International Journal of Artificial Organs | 2018 |
| 6 | Hend A Mostafa, Osama AM Abdelaal , Wael M Khier and AA Khalil, "Patient Specific Finite Element Modeling of Human Vertebra" | European Journal of Advances in Engineering and Technology | 2018 |
| 7 | Mohamed Adel, Osama Abdelaal , Abdelrasoul Gad, Abu Bakr Nasr, AboelMakaram Khalil "Polishing of fused deposition modeling products by hot air jet: Evaluation of surface roughness", | Journal of Materials Processing Technology | 2018 |
| 8 | M. Adel, Osama Abdelaal , Abdelrasoul Gad, Abu Bakr Naser, Aboel Makaram Khalil, "Enhancing the surface roughness of fused deposition modeling products", | Journal of Engineering Sciences | 2017. |

9- MAJOR RESEARCH PROJECTS

| # | Research Project | Status (Now/Finished) | Funded by |
|---|---|-----------------------|---|
| | Development of Improved Fused Deposition Modeling Nozzle System | Finished | STDF Research Support & Technology Development Grant (RSTDG), Egypt |