Dr. Mohammed A. Tashkandi

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Academic Status

Associate Professor **Mar. 2019 - present**
Department of Mechanical Engineering
Northern Border University, Arar, Saudi Arabia

Assistant Professor **Oct. 2013 – Feb. 2019**
Department of Mechanical Engineering
Northern Border University, Arar, Saudi Arabia
Teaching mechanical engineering courses such as engineering materials, mechanics of materials, advanced materials, design of experiments, thermodynamics, heat transfer, and senior project.

Administrative Experience

Dean, College of Engineering **Jan. 2015 – present**
Northern Border University
Arar, Saudi Arabia
ABET Accreditation for all Engineering Programs until 2024 from the first attempt.

Vice Dean, College of Engineering **Jan. 2014 – Jan. 2015**
Northern Border University
Arar, Saudi Arabia

Chairman, Mechanical Engineering Department **Oct. 2018 – present**
Northern Border University
Arar, Saudi Arabia

Education

Doctorate of Philosophy in Mechanical Engineering **2012**
Colorado State University, Fort Collins, Colorado, USA
Dissertation: "Pinholes in Cadmium Sulfide thin films deposited by Closed Space Sublimation and its effect on the open circuit voltage of Cadmium Telluride solar cells"

Master of Engineering, Mechanical Engineering **2008**
Colorado State University, Fort Collins, Colorado, USA
Focus of Study: Materials Engineering.
Related course work: Materials Engineering, Biomaterials, Applications, and FEM.

Bachelor of Science, Applied Mechanical Engineering **2002**
King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia

Publications

[1] M. Sh. Zoromba, **M. A. Tashkandi**, A. A. Alsheri, M. H. Abdel-Aziz, M. Bassyouni, S. A. Mahmoud, A. Ben Simmane, A. F. Al-Hossainy, "Polymer Solar Cell Based on Doped O-anthranilic Acid and O-aminophenol Copolymer", Optical Materials, 104, 2020.
[2] **M. A. Tashkandi** and M. Ibrahim, "Effect of Friction Time on the Mechanical and Microstructural Properties of AA6061 Joints by Continuous Drive Friction Welding", *Engineering Technology & Applied Science Research*, Vol. 10 (3), 2020, 5596-5602.
[3] **M. A. Tashkandi**, "*Surface Roughness and Change in Diameter Analysis for Al6061 Alloys by Ball Burnishing: A Response Surface Methodology*", Jouf University Science and Engineering Journal, Vol. 5, No. 2, **2018**, pp 10-20.
[4] **M. A. Tashkandi** and A. Aydi, "Heat Transfer Intensification in a 3D Cavity Using Hybrid CNT-Al2O3 (15-85%) Nanofluid", Frontiers in Heat and Mass Transfer, Vol. 11, No. 27, **2018**.
[5] A. Al-Rashed, L. Kolsi, **M. A. Tashkandi**, E. Malekshah, A. Chamkha, M. Borjini, "*Three-Dimensional Combined Radiation Magnetoconvection of Low Electrically Conductive Dielectric Oxide Melt*", International Journal of Numerical Methods and Heat Transfer, **2018**.
[6] **M. A. Tashkandi**, "*Friction Stir Spot Welding – A Validation Study for Optimal Process Parameters for Al6061 Alloys*", Engineering Research Journal, Vol. 41, No. 2, **2018**, pp 145-151.
[7] **M. A. Tashkandi**, "*Identifying and Studying the Impact of Significant Process Parameters on Friction Stir Spot Welding of the Al6061 Alloy Using DOE*", Journal of the North for Basic & Applied Sciences, Vol. 2, No. 2, **2017**, pp 125-134.
[8] **M. A. Tashkandi**, J. A. Al-Jarrah and M. Ibrahim, "*Increasing of the Mechanical properties of friction Stir Welded Joints of 6061 Aluminum Alloy by Introducing Alumina Particles*", Advances in Material Science, Vol. 17, No. 2(52), **2017**, pp 29-40.
[9] **M. A. Tashkandi**, J. A. Al-Jarrah and M. Ibrahim, "*Spot Welding of 6061 Aluminum Alloy by Friction Stir Spot Welding Process*", *Engineering, Technology & Applied Science Research*, Vol. 7, No. 3, **2017**, pp 1629-1632.
[10] M. I. Masoud, **M. A. Tashkandi**, J. Al-Jarrah and A. Farahat, "*Behavior of Triplex Steel Containing Different Aluminum Contents*", *Advances in Materials Science*, Vol. 17, No. 1(51), Mar. **2017**, pp 34-43.

Conferences and Presentations

Material Science and Technology MS&T19, Portland, Oregon, USA **Sep. 29 – Oct. 03, 2019**
Oral Presentation: "Thermal Modeling of Continuous Drive Friction Welding of Al6061".

Material Science and Technology MS&T18, Columbus, Ohio, USA **Oct. 14 – 18, 2018**
Oral Presentation: "Surface Roughness Study of Al6061 Alloy by Burnishing".

International Conference of Materials Engineering and Nanotechnology, ICMEN17, Kuala Lumpur, Malaysia. **May 12 – 14, 2017**
Oral Presentation: "Lap-Joints of 6061 Al Alloys by Friction Stir Welding".

Material Science and Technology MS&T15, Columbus, Ohio **Oct. 4 – 8, 2015**
Oral Presentation: "Friction Stir Spot Welding Parameters for Al6061 – An Experimental Design".

2015 ABET Symposium, Atlanta, Georgia **Apr. 22 – 24, 2015**

Program assessment, program evaluation, accreditation, and ABET requirements for successful accreditation through the Engineering commission.

40th IEEE Photovoltaic Specialists Conference, Denver, Colorado **June 8 – 13, 2014**
Crystalline Silicon solar cells, amorphous Silicon solar cells, thin films CdTe and CGIS solar cells.

38th IEEE Photovoltaic Specialists Conference, Austin, Texas **June 3 – 8, 2012**

37th IEEE Photovoltaic Specialists Conference, Seattle, Washington **June19 – 24, 2011**

Conference Proceedings

[1] M. A. Tashkandi, " Thermal Modeling of Continuous Drive Friction Welding of Al6061", Material Science and Technology, Portland, Oregon, USA, 2019.
[2] M. A. Tashkandi, " Surface Roughness Study of Al6061 Alloy by Burnishing", Material Science and Technology, Columbus, Ohio, USA, 2018.
[3] M. A. Tashkandi, "Lab-Joints of Al6061 Alloys by Friction Stir Welding", International Conference of Materials Engineering and Nanotechnology, Kuala Lumpur, Malaysia, 2017.
[4] M. A. Tashkandi, "Friction Stir Spot Welding Parameters for Al6061 – An Experimental Design", Material Science and Technology, Columbus, Ohio, USA, 2015.
[5] M. A. Tashkandi and W. S. Sampath. "Eliminating Pinholes in CCS Deposited CdS Films," *38th IEEE PV Specialists Conference*, Austin, Texas, USA, 2012.
[6] M. A. Tashkandi and W. S. Sampath. "Morphology of CdS thin films: pinholes and their effect on open circuit voltage in CdS/CdTe solar cells," *37th IEEE PV Specialists Conference*, Seattle, Washington, USA, 2011.

Research Grants

- **"Study of the Mechanical Properties of Aluminum Joints Doped With Graphene and Formed by Continuous Drive Friction Welding"** **2018**
  Deanship of Scientific Research, Northern Border University
- **"Studying the Effect of Friction Time on the Mechanical Properties of Al 6061 Joints by Continuous Drive Friction Welding"** **2018**
  Deanship of Scientific Research, Northern Border University
- **"Studying the Process of Joining HDPE by Continuous Drive Friction Welding"** **2018**
  Deanship of Scientific Research, Northern Border University
- **"Strengthening Al Alloys Welds by Friction Stir Welding"** **2015**
  Deanship of Scientific Research, Northern Border University
- **"Welding Al Alloys by Using Friction Stir Spot Welding"** **2014**
  Deanship of Scientific Research, Northern Border University

Certificates and Professional Development

- **"The Science of Success: What Researchers Know that You Should Know"** **Sep. 2020**
  University of Michigan
  Online Course, through Coursera.

- **"Mindshift: Break Through Obstacles to Learning and Discovery of Hidden Potential"** **May 2020**
  McMaster University
  Online Course, through Coursera.
- **"Strategic Planning and Measuring KPI's by Mcsqp Methodology"** **Mar. 2019**
  Advanced Asaleeb Training Center
  Dubai, UAE
- **"Fundamental of Program Assessment"** **Apr. 2015**
  ABET Symposium 2015
  Atlanta, Georgia, USA.
- **"Thinking Based Teaching Strategies"** **Dec. 2014**
  Deanship of Academic Development
  Northern Border University, Saudi Arabia
- **" The Essential Academic Leader"** **Apr. 2014**
  Academic Leadership Development Center
  Ministry of Higher Education, Saudi Arabia
- **"Leadership Training in Higher Education"** **Mar. 2014**
  National Commission for Academic Accreditation and Assessment
  Riyadh, Saudi Arabia
- **"Student Encouragement Workshop"** **Nov. 2013**
  Northern Border University
  Arar, Saudi Arabia
- **Research Commercialization Introductory course** **Feb. – Apr. 2012**
  The National Council of Entrepreneurial Tech Transfer.
- **Sustainable Technology Entrepreneurship Course** **Spring 2011**
  Colorado State University, Co, USA

Summary of Skills

- Fluent in spoken and written English and Arabic languages.
- Excellent communication skills, and strong commitment while remaining calm under demanding work conditions.
- Well organized with strong analytical research and writing skills.
- Highly initiative-taking, resourceful, capable of getting the job done and well.
- Perform well within team environments as well as multi-disciplinary environments.
- Well conversant and perfectly familiar with Microsoft® Office software including Word, Excel, Power point, Outlook, and Project.
- Well-established knowledge of statistical analysis and design methods using multiple statistical software packages.
- Advanced Research Deposition System Operation: Depositing thin films and manufacturing photovoltaic devices.

Previous Experience

Sales Engineer **(Nov. 2003- Nov. 2005)**

ABB Service Co. Ltd., Jeddah, Saudi Arabia.

Service Engineer **(Jan. 2003 – Oct. 2003)**
ABB Service Co. Ltd., Jeddah, Saudi Arabia.
Overhauling and repairing ABB-manufactured turbochargers.

Assistant Production Engineer **(Feb. 2001 – Aug. 2001)**
Aircraft Accessories and Components Co., Jeddah, Saudi Arabia

Memberships

The Minerals, Metals and Materials Society (MST), member.
The American Ceramic Society (ACS), member.
American Society for Mechanical Engineering (ASME), member

References

References will be provided upon request.