

Dr. Hamad F. Alharbi

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EDUCATION

- ***Ph.D. in Mechanical Engineering*** January 2014
Georgia Institute of Technology, Atlanta, Georgia, USA
- ***M.S. in Materials Science and Engineering*** September 2009
Drexel University, Philadelphia, Pennsylvania, USA
- ***B.S. in Mechanical Engineering*** April 2001
King Abdulaziz University, Jeddah, Saudi Arabia

EMPLOYMENT

- ***Director, Academic Leadership Development Center*** Oct. 2021 – Present
Ministry of Education, Riyadh, Saudi Arabia
- ***Advisor to the Deputy Minister for Universities, Research, and Innovation*** Feb. 2021 – Present
Ministry of Education, Riyadh, Saudi Arabia
- ***Chairman of the Mechanical Engineering Department*** 2019 – 2021
Mechanical Engineering Department, King Saud University, Riyadh, Saudi Arabia
- ***Director, Center of Excellence for Research in Engineering Material (CEREM)*** 2019 – 2021
King Saud University, Riyadh, Saudi Arabia
- ***Associate Professor*** 2019 – Present
Mechanical Engineering Department, King Saud University, Riyadh, Saudi Arabia
- ***Director, College of Applied Engineering, Muzahimya Campus*** 2016 – 2019
King Saud University, Riyadh, Saudi Arabia
- ***Assistant Professor*** 2014 – 2019
Mechanical Engineering Department, King Saud University, Riyadh, Saudi Arabia
- ***Research Assistant*** 2007 – 2010
Materials Science and Engineering Department, Drexel University, USA
- ***Teaching Assistant*** 2006 – 2007
Mechanical Engineering Department, King Saud University, Riyadh, Saudi Arabia

INDUSTRIAL EXPERIENCE:

- **Engineer IV** 2002 – 2006
Saudi Aramco, Dhahran, Saudi Arabia
 - **Plant Engineer:** Responsibilities included: preparing design packages for addressing plant malfunctions and troubleshooting plant shutdown.
 - **Inspection Engineer:** Responsibilities included: conducting field inspection of various stationary equipment, monitoring nondestructive testing and welding activities, and conducting fitness for service assessment

- **Maintenance Engineer** 2001 – 2002
SABIC, Ibn Sina Company, Jubail, Saudi Arabia
Responsibilities included: monitoring vibration in rotating equipment and investigating cathodic protection system.

ATTENDED TRAINING AND WORKSHOPS

- **Leadership and Talent Management, 2022**, organized by the Institute of Public Administration, 5 days (30 hours), France.

- **Project Management, 2021**, organized (online) by Google: 4 specialized courses (~ 3 months) including
 - Foundations of Project Management
 - Project Initiation
 - Project Planning
 - Project Execution

- **Development of Academic Programs, 2021**, organized by the Deanship of Skills Development at King Saud University (10 hours).

- **Strategic Leadership and Management Specialization, 2020**, organized (online) by University of Illinois at Urbana-Champaign: 6 specialized courses (~ 4 months) including
 - Foundations of Everyday Leadership
 - Applications of Everyday Leadership
 - Designing the Organization
 - Managing the Organization
 - Business Strategy
 - Corporate Strategy

- **Building a Program for Academic Leaders, 2019**, organized by the Deanship of Skills Development at King Saud University (5 hours).

- **Saudi Arabia Qualifications Framework (SAQF), 2018**, organized by the Education Evaluation Commission. The main topics covered in this program (18 hours):
 - Standards for the classification of qualifications based on learning outcomes for national recognitions
 - Procedures of reviewing applications to the National Qualifications Framework (SAQF).
 - Requirements for conformity with the National Qualifications Framework

- **Promising Faculty Program in Effective Teaching, 2016**, organized by the Center for Excellence in Learning and Teaching, King Saud University. The main topics covered in this program (40 hours):
 - Employment of technologies in Learning
 - Learning Strategies
 - The seven principles for smart teaching

- Partnership in learning and teaching
 - Assessing Student Learning
- ***New Faculty Orientation and Preparation Program***, 2015, organized by the Deanship of Skills Development at King Saud University. The main topics covered in this program (36 hours):
 - Course Design and Construction (9 hours)
 - Effective Teaching Skills for Higher Education (12 hours)
 - Learning Outcomes Assessments (9 hours)
 - Micro Teaching (6 hours)
 - ***Towards Effective Teaching in Higher Education Program***, 2014, organized by the Deanship of Skills Development at King Saud University. The main topics covered in this program (25 hours):
 - Searching skills in Electronic Information Resources (5 hours)
 - Electronic Course Design by Course Lab (5 hours)
 - Using Goggle Instruments in Learning (5 hours)
 - Meeting your class for the first time (5 hours)
 - Teaching with problem solving approach (5 hours)
 - ***Management and Communication Workshops***, 2004-2006, organized by Saudi Aramco. Topics include: Building communication, Trust and Teamwork, Seven habits of highly effective people, PDP Analyze and solve problem, Communication through listening, Corporate innovation awareness workshop, Analyze your use of time, Self-development workshop, Interpersonal communication, and The 8th habit.
 - ***Technical Courses***, 2004-2006, organized by Saudi Aramco. Topics include: COE 101 Corrosion basics, COE 102 Corrosion monitoring, COE 656 – Microcor Corrosion monitoring, COE 104 Chemical treating, Piping, Pipelines and valves, and Instrumentation and control-measure.

CURRENT FIELDS OF INTEREST

A. Research Areas:

1. *Nanofiber Membranes for Water Treatment Applications*: Nanofiber membranes for solar driven interfacial evaporation, Efficient adsorption of heavy metal ions using electrospun polymer-based nanofiber membranes. Development of structure–property linkages for nanofiber porous membranes
2. *Multiscale Materials Modeling*: Predictions of anisotropic mechanical response and texture evolution of polycrystalline metals using physics-based (finite element) crystal plasticity models. Microstructure-property relationships in polycrystalline materials.

B. Funded Research Projects:

1. June 2020
Project: Design and Manufacturing of Low-cost Mechanical Ventilators
PI: Dr. Hamad F. Alharbi
King Saud University Covid-19 Research Initiative, Deanship of Scientific Research, KSU (Project no. KSU-COVID19-1-20-002)
2. September 2019
Project: Spectral representation of the texture-based plastic potential for cubic polycrystalline materials
PI: Dr. Hamad F. Alharbi

High-Quality and Impact in Scientific Publishing initiative, Research & Development Office (RDO), Ministry of Education, Saudi Arabia

3. March 2019

Project: Multilayer integrated polymeric membranes

PI: Dr. Hamad F. Alharbi (in Collaboration with KAUST, Saudi Arabia)

Research Group Grant, Deanship of Scientific Research, KSU (Project no. RG-1440-101)

4. January 2019

Project: Stability enhancement of Perovskite solar cells by using organic-inorganic materials

Co-PI: Dr. Hamad F. Alharbi (in Collaboration with Solar Energy Research Institute, UKM, Malaysia)

Research Group Grant, DSR, KSU (Project no. RG-1440-116)

5. September 2017

Project: Core-shell structured polymeric nanofibers by coaxial electrospinning for tissue engineering

PI: Dr. Hamad F. Alharbi

Research Group Grant, DSR, KSU (Project no. RG-1438-035)

6. April 2015

Project: Experimental and numerical study of texture evolution and anisotropic plastic deformation of pure magnesium under various strain paths

PI: Dr. Hamad F. Alharbi

RAED Grant, DSR, KSU (Project no. NFG-15-03-11)

C. Technical Skills:

1. *Materials Characterization/Microstructure Quantification:* Scanning Electron Microscopy (SEM), Electron Backscatter Diffraction (EBSD), X-Ray Diffraction (XRD), Mechanical testing, Nanoindentation, and Heat Treatment, N-point correlations, texture analysis.
2. *Programming/Modeling/Simulations:* Finite Element software (ABAQUS, ANSYS), Metal forming simulations (FORGE, DEFORM), Extensive knowledge of developing User Materials Subroutine (UMAT) for ABAQUS. FORTRAN, MATLAB, Maple, AutoCAD, SolidWorks.
3. *Computational Mechanics:* Classical plasticity theories, Crystal plasticity, Composite theories

Individual Student Guidance/Mentorship of Postdoctoral Fellows

A. Postdoctoral Fellows/Research Assistant Supervised

1. Dr. Abdulaziz Assaifan

January 2019–Sept. 2020

Research Topic: “Nanofiber Composite Membranes for Water Desalination Applications”

Supported by the Post-Doctoral Fellowships Program, Research & Development Office (RDO), Ministry of Education, Saudi Arabia

2. Eng. Abdulrahman S. Aljdid

September 2019–Sept. 2020

Research Topic: “Carbon Nanotube–Polymer Nanofiber Membranes for Water Applications”

Supported by the Research Assistant Internship Program, Deanship of Scientific Research, King Saud University

B. Graduate Students

1. Mr. Ahmed Zaki Alsaggaf
Under Advisement, Began 2020
M.S. Thesis: “Modified Electrospun PAN Nanofiber Membranes for Efficient Solar Driven Interfacial Evaporation”.
2. Mr. Yassir Bahri
Under Advisement, Began 2020
M.S. Thesis: “Development and Characterization of Ti- Zr-Ta-Sn Alloys for Biomedical Applications”.
3. Mr. Belal Aldokhayel
Under Advisement, Began 2020
M.S. Thesis: “Environmental Friendly Solar Dryer for Dates by using Doubled Pass Solar Dryer”.
4. Mr. Abdulmajeed Ibrahim Altassan
Graduated in February 2021
M.S. Thesis: “Influence of material structure on the mechanical behavior of nanofiber membranes: A finite element study”.
5. Mr. Talal Talib Alshammari
Graduated in April 2020
M.S. Thesis: “Influence of Cu/Mg ratio and pre-deformation on the mechanical properties of aged Al-Cu-Mg-Ag alloys”.
6. Mr. Mustafa Yahya Haddad
Graduated in December 2018
M.S. Thesis: “Fabrication of Enhanced Polymer/Metal Oxide Nanofibrous Membranes for Heavy Metals Removal from Wastewater”, Received the Excellent Researcher Award (2nd place) by the College of Engineering at King Saud University.
7. Mr. Monis Luqman Mohammed
Graduated in April 2018
M.S. Thesis: “Development of Coaxial Biopolymer based Nanofiber Composites by Electrospinning for Biomedical Applications”, Received the Excellent Researcher Award (1st place) by the College of Engineering at King Saud University.

C. Undergraduate (B.S.) Students

1. Mr. Mashal Alfuhaid, Mr. Bander Almutairi, Mr. Abdullah Alshuwaier, and Mr. Rayan AL Qahtani
Under Advisement, Spring 2021
B.S. Senior Design Graduation Project (ME496/ME497): “Exploration of Emergency Ventilators Based on Kinematics of Bag-Valve Pressing Systems”.
2. Mr. Sohaib Bashraheel, and Mr. Fadel Al-Karam
Graduated in Fall 2019
B.S. Senior Design Graduation Project (ME496/ME497): “Designing an electrospinning collector for enhancing the uniformity and physical properties of fabricated nanofibers”.
3. Mr. Omar Esmail, Mr. Bashar Khdir, and Mr. Laith Al-Zaghal
Graduated in Fall 2018
B.S. Senior Design Graduation Project (ME496/ME497): “Design and Optimization of Automated Crack Propagation Measurement System for Fatigue Test”.
4. Mr. Abdulmohsen Y. Al-Yahya, Mr. Fahad S. Al-Otaibi, and Mr. Khaled H. Al-Qahtani
Graduated in Fall 2015

B.S. Senior Design Graduation Project (ME496/ME497): “Design of a Fixture for Bond Strength Testing of Root Canal Sealers”.

5. Mr. Ahmed AL-Nejaidi, Mr. Mohammed AL-Muqbil, Mr. Mohammed AL-Shaikh, and Mr. Abdulaziz AL-Rushaid
Graduated in Fall 2016
B.S. Senior Design Graduation Project (ME496/ME497): “Design and Manufacturing of Brake Pads and Brake Systems”.
6. Mr. Naif Alshathri, Mr. Abdulelah Almansur, Mr. Abdulrahman Alwehaib, Mr. Sulaiman Albazai, and Mr. Moath Almaiman
Graduated in Fall 2017
B.S. Senior Design Graduation Project (ME496/ME497): “Design and Manufacturing of Thermoplastic Filaments for FDM Machine”

TEACHING EXPERIENCE

A. Courses Taught:

- Mechanical Behavior of Solids (ME-451). King Saud University
- Materials Engineering (ME-254). King Saud University
- Mechanics of Materials (ME-352). King Saud University
- Continuum Mechanics (ME-651). King Saud University
- Mechanical Behavior of Materials (MSE-552). King Saud University
- Special Topics in Solid Mechanics (ME-591/ME-695). King Saud University
- Special Topics in Materials Engineering (MSE-591). King Saud University
- Processing Metallic Materials (MSE-366). Teaching assistant at Drexel University, USA
- Numerical Methods III (MEM-593). Teaching assistant at Drexel University, USA

B. Major Teaching Awards and Training:

- *SEDA Learning Teaching and Assessing Award*, 2015, awarded by the Staff and Educational Development Association (SEDA), UK.
- Certificate of Completion, “*Promising Faculty Program in Effective Teaching*”, 2016, organized by the Center for Excellence in Learning and Teaching, King Saud University.
- Certificate of Completion, “*New Faculty Orientation and Preparation Program*”, 2015, organized by the Deanship of Skills Development at King Saud University
- Certificate of Completion, “*Towards Effective Teaching in Higher Education Program*”, 2014, organized by the Deanship of Skills Development at King Saud University

SCHOLARLY ACCOMPLISHMENTS

A. JOURNAL PUBLICATIONS:

1. Wahab, M. A.; Luming, L.; Matin, M. A.; Karim, M. R.; Aijaz, M. O.; Alharbi, H. F.; Abdala, A.; Haque, R., Silver micro-nanoparticle-based nanoarchitectures: Synthesis routes, biomedical applications, and mechanisms of action. *Polymers* 2021, 13 (17), 2870.

2. Rahman, M. M.; Karim, M. R.; Alharbi, H. F.; Aldokhayel, B.; Uzzaman, T.; Zahir, H., Cadmium Selenide quantum dots for solar cell applications: a review. *Chemistry—An Asian Journal* 2021, 16 (8), 902-921.
3. Nauman, S.; Lubineau, G.; Alharbi, H. F., Post processing strategies for the enhancement of mechanical properties of enms (Electrospun nanofibrous membranes): A review. *Membranes* 2021, 11 (1), 39.
4. Hasan, M. M.; Islam, T.; Ratan, Z. A.; Shaikh, M. N.; Karim, M. R.; Rahman, M. M.; Alharbi, H. F.; Uddin, J.; Aziz, M. A.; Ahammad, A. S., Ni and Co oxide water oxidation electrocatalysts: Effect of thermal treatment on catalytic activity and surface morphology. *Renewable and Sustainable Energy Reviews* 2021, 145, 111097.
5. Hasan, M. M.; Islam, T.; Imran, A.; Alqahtani, B.; Shah, S. S.; Mahfoz, W.; Karim, M. R.; Alharbi, H. F.; Aziz, M. A.; Ahammad, A. S., Mechanistic insights of the oxidation of bisphenol A at ultrasonication assisted polyaniline-Au nanoparticles composite for highly sensitive electrochemical sensor. *Electrochimica Acta* 2021, 374, 137968.
6. Fouly, A.; Almotairy, S. M.; Aijaz, M. O.; Alharbi, H. F.; Abdo, H. S., Balanced Mechanical and Tribological Performance of High-Frequency-Sintered Al-SiC Achieved via Innovative Milling Route—Experimental and Theoretical Study. *Crystals* 2021, 11 (6), 700.
7. Assaifan, A. K.; Aijaz, M. O.; Luqman, M.; Drmosh, Q.; Karim, M. R.; Alharbi, H. F., Removal of cadmium ions from water using coaxially electrospun PAN/ZnO-encapsulated PVDF nanofiber membranes. *Polymer Bulletin* 2021, 1-20.
8. Almotairy, S. M.; Sherif, E.-S. M.; Alharthi, N. H.; Abdo, H. S.; Alharbi, H. F.; Luqman, M., Influence of Milling Route on the Corrosion Passivation of Al-2% SiC Nanocomposites in Chloride Solutions. *Crystals* 2021, 11 (10), 1231.
9. Alharthi, N. H.; Almotairy, S. M.; Alharbi, H. F.; Shahinuzzaman, M.; Luqman, M.; Sobayel, K., Investigation on structural and opto-electronic properties of substitutional Sn doped WS₂ by co-sputtering technique. *Journal of Materials Research and Technology* 2021, 15, 846-854.
10. Alharbi, H. F.; Bahri, Y. A.; Sherif, E.-S. M., Influence of Zirconium on the Corrosion Passivation of Titanium in Simulated Body Fluid. *Crystals* 2021, 11 (11), 1391.
11. Aijaz, M. O.; Karim, M. R.; Alharbi, H. F.; Alharthi, N. H.; Al-Mubaddel, F. S.; Abdo, H. S., Magnetic/polyetherimide-acrylonitrile composite nanofibers for nickel ion removal from aqueous solution. *Membranes* 2021, 11 (1), 50.
12. Abdo, H. S.; Seikh, A. H.; Alharbi, H. F.; Mohammed, J. A.; Soliman, M. S.; Fouly, A.; Ragab, S. A., Tribo-Behavior and Corrosion Properties of Welded 304L and 316L Stainless Steel. *Coatings* 2021, 11 (12), 1567.
13. Selvanathan, V.; Yahya, R.; Alharbi, H. F.; Alharthi, N. H.; Alharthi, Y. S.; Ruslan, M. H.; Amin, N.; Akhtaruzzaman, M., Organosoluble starch derivative as quasi-solid electrolytes in DSSC: Unravelling the synergy between electrolyte rheology and photovoltaic properties. *Solar Energy* 2020, 197, 144-153.
14. Rahman, M. M.; Karim, M. R.; Alam, M.; Zaman, M. B.; Alharthi, N.; Alharbi, H.; Asiri, A. M., Facile and efficient 3-chlorophenol sensor development based on photoluminescent core-shell

CdSe/ZnS quantum dots. *Scientific Reports* 2020, 10 (1), 1-10.

15. Rafiq, B.; Sobayel, M. K.; Amin, N.; Alharbi, H. F.; Luqman, M.; Ayob, A.; Alharthi, Y. S.; Alharthi, N. H.; Bais, B.; Akhtaruzzaman, M., WS₂: a new window layer material for solar cell application. *Scientific reports* 2020, 10 (1), 1-11.
16. Mahjabin, S.; Haque, M. M.; Sobayel, K.; Jamal, M.; Islam, M. A.; Selvanathan, V.; Assaifan, A. K.; Alharbi, H. F.; Sopian, K.; Amin, N., Perceiving of defect tolerance in perovskite absorber layer for efficient perovskite solar cell. *IEEE Access* 2020, 8, 106346-106353.
17. Karimov, K. S.; Fatima, N.; Qasuria, T.; Siddiqui, K.; Bashir, M.; Alharbi, H.; Alharth, N.; Al-Harthy, Y.; Amin, N.; Akhtaruzzaman, M., Innovative semitransparent photo-thermoelectric cells based on bismuth antimony telluride alloy. *Journal of Alloys and Compounds* 2020, 816, 152593.
18. Assaifan, A. K.; Ahmad, I.; Alshehri, N. A.; Alharbi, H. F., Scaling-up medical technologies using flexographic printing. *Talanta* 2020, 219, 121236.
19. Alshammari, T. T.; Alharbi, H. F.; Soliman, M. S.; Ijaz, M. F., Effects of Mg content on the microstructural and mechanical properties of Al-4Cu-xMg-0.3 Ag alloys. *Crystals* 2020, 10 (10), 895.
20. Almotairy, S. M.; Alharthi, N. H.; Alharbi, H. F.; Abdo, H. S., Superior Mechanical performance of inductively Sintered Al/SiC nanocomposites processed by novel Milling Route. *Scientific Reports* 2020, 10 (1), 1-13.
21. Alharthi, N. H.; Sherif, E.-S. M.; Taha, M. A.; Abbas, A. T.; Abdo, H. S.; Alharbi, H. F., Influence of Extrusion Temperature on the Corrosion Behavior in Sodium Chloride Solution of Solid State Recycled Aluminum Alloy 6061 Chips. *Crystals* 2020, 10 (5), 353.
22. Alharbi, H. F.; Haddad, M. Y.; Aijaz, M. O.; Assaifan, A. K.; Karim, M. R., Electrospun bilayer PAN/chitosan nanofiber membranes incorporated with metal oxide nanoparticles for heavy metal ion adsorption. *Coatings* 2020, 10 (3), 285.
23. Taha, M. A.; Abbas, A. T.; Benyahia, F.; Alharbi, H. F.; Guitián, B.; Novoa, X. R., Enhanced corrosion resistance of recycled aluminum alloy 6061 chips using hot extrusion followed by ECAP. *Journal of Chemistry* 2019, 2019.
24. Swetha, T.; Karim, M. R.; Alharbi, H. F.; Alharthi, N. H.; Bais, B.; Amin, N.; Akhtaruzzaman, M., Synthesis of new simple hole-transport materials bearing benzodithiazole based core for perovskite solar cells. *Solar Energy* 2019, 194, 431-435.
25. Sobayel, K.; Akhtaruzzaman, M.; Rahman, K.; Ferdaous, M.; Al-Mutairi, Z. A.; Alharbi, H. F.; Alharthi, N. H.; Karim, M. R.; Hasmady, S.; Amin, N., A comprehensive defect study of tungsten disulfide (WS₂) as electron transport layer in perovskite solar cells by numerical simulation. *Results in Physics* 2019, 12, 1097-1103.
26. Qasuria, T. A.; Alam, S.; Karimov, K. S.; Fatima, N.; Alharthi, Y. S.; Alharbi, H. F.; Alharthi, N. H.; Amin, N.; Akhtaruzzaman, M., Stable perovskite based photodetector in impedance and capacitance mode. *Results in Physics* 2019, 15, 102699.
27. Karim, M. R.; Aijaz, M. O.; Alharth, N. H.; Alharbi, H. F.; Al-Mubaddel, F. S.; Awual, M. R., Composite nanofibers membranes of poly (vinyl alcohol)/chitosan for selective lead (II) and

cadmium (II) ions removal from wastewater. *Ecotoxicology and environmental safety* 2019, 169, 479-486.

28. Jamal, M.; Shahahmadi, S.; Chelvanathan, P.; Alharbi, H. F.; Karim, M. R.; Dar, M. A.; Luqman, M.; Alharthi, N. H.; Al-Harhi, Y. S.; Aminuzzaman, M., Effects of growth temperature on the photovoltaic properties of RF sputtered undoped NiO thin films. *Results in Physics* 2019, 14, 102360.
29. Hasan, M. M.; Ehsan, M. A.; Islam, T.; Alharthi, N. H.; Alharbi, H. F.; Karim, M. R.; Aziz, M. A.; Ahammad, A. S., Selective detection of dopamine at the AACVD synthesized palladium nanoparticles and understanding the sensing mechanism through electrochemical and computational study. *Journal of The Electrochemical Society* 2019, 166 (15), B1528.
30. Haddad, M. Y.; Alharbi, H. F., Enhancement of heavy metal ion adsorption using electrospun polyacrylonitrile nanofibers loaded with ZnO nanoparticles. *Journal of Applied Polymer Science* 2019, 136 (11), 47209.
31. Alharthi, N.; Sherif, E.-S. M.; Abdo, H. S.; Alharbi, H. F.; Misiolak, W. Z., Effect of extrusion welding locations on the corrosion of AM30 alloy extrudate. *Journal of Materials Research and Technology* 2019, 8 (2), 2280-2289.
32. Aijaz, M. O.; Karim, M. R.; Alharbi, H. F.; Alharthi, N. H., Novel optimised highly aligned electrospun PEI-PAN nanofibre mats with excellent wettability. *Polymer* 2019, 180, 121665.
33. Jamal, M.; Bashar, M.; Hasan, A. M.; Almutairi, Z. A.; Alharbi, H. F.; Alharthi, N. H.; Karim, M. R.; Misran, H.; Amin, N.; Sopian, K. B., Fabrication techniques and morphological analysis of perovskite absorber layer for high-efficiency perovskite solar cell: A review. *Renewable and Sustainable Energy Reviews* 2018, 98, 469-488.
34. Haddad, M. Y.; Alharbi, H. F.; Karim, M. R.; Aijaz, M. O.; Alharthi, N. H., Preparation of TiO₂ incorporated polyacrylonitrile electrospun nanofibers for adsorption of heavy metal ions. *Journal of Polymer Research* 2018, 25 (10), 1-14.
35. Alharthi, N. H.; Bingol, S.; Abbas, A. T.; Ragab, A. E.; Aly, M. F.; Alharbi, H. F., Prediction of cutting conditions in turning AZ61 and parameters optimization using regression analysis and artificial neural network. *Advances in Materials Science and Engineering* 2018, 2018.
36. Alharbi, H. F.; Luqman, M.; Khan, S. T., Antibiofilm activity of synthesized electrospun core-shell nanofiber composites of PLA and PVA with silver nanoparticles. *Materials Research Express* 2018, 5 (9), 095001.
37. Alharbi, H. F.; Luqman, M.; Khalil, K. A.; Elnakady, Y. A.; Abd-Elkader, O. H.; Rady, A. M.; Alharthi, N. H.; Karim, M. R., Fabrication of core-shell structured nanofibers of poly (lactic acid) and poly (vinyl alcohol) by coaxial electrospinning for tissue engineering. *European Polymer Journal* 2018, 98, 483-491.
38. Alharbi, H. F.; Luqman, M.; Fouad, H.; Khalil, K. A.; Alharthi, N. H., Viscoelastic behavior of core-shell structured nanofibers of PLA and PVA produced by coaxial electrospinning. *Polymer Testing* 2018, 67, 136-143.
39. Alharbi, H. F.; Luqman, M.; El-Danaf, E.; Alharthi, N. H., Experimental and numerical study of texture evolution and anisotropic plastic deformation of pure magnesium under various strain paths.

Advances in Materials Science and Engineering 2018, 2018.

40. Alharthi, N. H.; Bingol, S.; Abbas, A. T.; Ragab, A. E.; El-Danaf, E. A.; Alharbi, H. F., Optimizing cutting conditions and prediction of surface roughness in face milling of AZ61 using regression analysis and artificial neural network. *Advances in Materials Science and Engineering* 2017, 2017.
41. Abdo, H.; Elzatahry, A.; Alharbi, H.; Khalil, K., Electrical conductivity behavior of biopolymer composites. In *Biopolymer Composites in Electronics*, Elsevier: 2017; pp 13-25.
42. Weaver, J. S.; Turner, D.; Miller, C.; Fast, T.; Al-Harbi, H.; Vachhani, S.; Kalidindi, S. R. Spherical nanoindentation stress-strain analysis, Version 1; Los Alamos National Lab.(LANL), Los Alamos, NM (United States): 2016.
43. Khalil, K. A.; Sherif, E.-S. M.; Nabawy, A. M.; Abdo, H. S.; Marzouk, W. W.; Alharbi, H. F., Titanium Carbide Nanofibers-Reinforced Aluminum Compacts, a New Strategy to Enhance Mechanical Properties. *Materials* 2016, 9, 399.
44. Khalil, K. A.; Sherif, E.-S. M.; Nabawy, A.; Abdo, H. S.; Marzouk, W. W.; Alharbi, H. F., Titanium carbide nanofibers-reinforced aluminum compacts, a new strategy to enhance mechanical properties. *Materials* 2016, 9 (5), 399.
45. Al-Harbi, H. F. Crystal plasticity finite element simulations using discrete Fourier transforms. Georgia Institute of Technology, 2013.
46. Al-Harbi, H. F.; Landi, G.; Kalidindi, S. R., Multi-scale modeling of the elastic response of a structural component made from a composite material using the materials knowledge system. *Modelling and Simulation in Materials Science and Engineering* 2012, 20, 055001.
47. Hamad F. Al-Harbi, M. K., and Surya R. Kalidindi, Spectral Approaches for the Fast Computation of Yield Surfaces and First-Order Plastic Property Closures for Polycrystalline Materials with Cubic-Triclinic Textures. *Computers, Materials, & Continua (CMC)* 2010, 15 (2), 153-172.
48. Al-Harbi, H. F.; Knezevic, M.; Kalidindi, S. R., Spectral approaches for the fast computation of yield surfaces and first-order plastic property closures for polycrystalline materials with cubic-triclinic textures. *Computers, Materials, & Continua* 2010, 15, 153–172.

B. CONFERENCE:

1. Mustafa Y. Haddad, Abdulaziz Assaifan, **Hamad F. Alharbi**, Mohammad R. Karim, Muhammed O. Aijaz, “*Enhancement of heavy metal ion adsorption using electrospun polyacrylonitrile nanofibers loaded with ZnO/TiO₂ nanoparticles*”, 9th International Colloids Conference, 16–19 June 2019, Barcelona, Spain.
2. Hamad S AlRomaih, Mohammad Rezaul Karim, Fahad S Al-Mubaddel, Maher M. Alrashed, Nabeel H AlHarti, **Hamad F Alharbi**, “*Preparation and characterization of polyvinylidene fluoride (PVDF) polymer/chitosan polymer membrane for water applications*”, Desalination for the Environment: Clean Water and Energy, 3–6 September 2018, Divani Caravel Hotel, Athens, Greece.
3. **Hamad F. Al-Harbi** and Surya R. Kalidindi, “*New spectral crystal plasticity approach using Discrete Fourier Transforms*”, Society of Engineering Science, 49th Annual Technical Meeting, October 10-12, 2012, Atlanta, Georgia.

4. **Hamad F. Al-Harbi**, Giacomo Landi, and Surya R. Kalidindi, “*Multi-scale modeling of the elastic response of a structural component made from a composite material using the materials knowledge system*”, International Workshop on Computational Mechanics of Materials (IWCM XXII), September 24-26, 2012, Baltimore, Maryland.
5. **Hamad F. Al-Harbi**, Josh Shaffer, Surya R. Kalidindi “*Crystal plasticity finite element simulations of cubic metals using spectral databases of DFTs*”, TMS 2011, Feb. 27-March 03, 2011. San Diego, California.
6. **Hamad F. Al-Harbi**, Marko Knezevic, Surya R. Kalidindi “*Elastic-Plastic Closures for Polycrystalline Cubic-Triclinic Microstructures using Spectral Crystal Plasticity*”, Materials Science & Technology Oct 25-29 2009, Pittsburgh, Pennsylvania.

SERVICE

- Member in the Council of the Mechanical Engineering Department, King Saud University, 2014 – Present.
- Member in the Council of the College of Engineering, King Saud University, 2019 – 2021.
- Member in the Council of the Water Desalination Master Program, King Saud University, 2019 – 2021.
- Member in the Council of Muzahimya Colleges, Muzahimya Campus, King Saud University, 2016 – 2019.
- Member in the College of Engineering Council, King Saud University, 2015 – 2016.
- Member in the Faculty and Demonstrator Committee, Muzahimya Campus, King Saud University, 2016 – 2019.
- Head of the Scientific Group of Solids and Design, Mechanical Engineering Department, King Saud University, 2014 – 2019.
- Member in the Graduate Program Committee, Mechanical Engineering Department, King Saud University, 2014 – 2019.
- Member in the Registration Committee, Mechanical Engineering Department, King Saud University, 2014 – 2019.
- Giving a workshop about Saudi Building Code: Mechanical, The Ministry of Municipal and Rural Affairs, May 2015, Riyadh, Saudi Arabia.
- Giving a workshop about Materials Characterization, Ministry Industries Corporation, 2014, Riyadh, Saudi Arabia.

HONORS AND AWARDS

- *SEDA Learning Teaching and Assessing Award*, 2015, awarded by the Staff and Educational Development Association (SEDA), UK.
- *Outstanding Student Award*, in recognition of completing PhD degree at one of the top ten universities in USA, awarded by the Saudi Arabian Cultural Mission to the United States of America, 2013, Washington, USA.
- *Outstanding Student Award*, awarded by the Saudi Arabian Cultural Mission to the United States of America, 2009, Washington, USA.
- *Certificate of Appreciation*, in recognition of completing two successive semesters in the college of engineering with an excellent GPA, 2000, King Abdulaziz University, Jeddah, Saudi Arabia

- *Certificate of Appreciation*, in recognition of completing two successive semesters in the college of engineering with an excellent GPA, 1999, King Abdulaziz University, Jeddah, Saudi Arabia
- *Certificate of Appreciation*, in recognition of completing two successive semesters in the college of engineering with an excellent GPA, 1998, King Abdulaziz University, Jeddah, Saudi Arabia

MEMBERSHIPS

The Minerals, Metals and Materials Society (TMS), ASM International, The American Ceramic Society (ACers), Association for Iron and Steel Technology (AIST), American Association for Advancement of Science (AAAS).