



King Saud University

Academic CV

Name: **Abdulkhakim Abdulrahman Almajid**

Current Position: Associate Professor

Coordinator of the Materials Research Center

Technical Director of the Center of Excellence for Research of Engineering Materials

Previous Position: Chairman of the Mechanical engineering Department 2005-2011

Department: Mechanical Engineering

Faculty: Engineering

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Citizenship: Saudi

Date of birth: September, 13, 1969

Place of Birth: Riyadh, Saudi Arabia

EDUCATION

Ph.D. in Mechanical Engineering, 2002, University of Washington, Seattle, WA.
Dissertation title: *Design of High Performance Piezo Composites Actuators*

M.S. in Mechanical Engineering, 1995, Washington University, St. Louis, MO.
Thesis title: *Fatigue of Spot Welded Carbon Steel Joints with Modified Geometry*

B.S. in Mechanical Engineering, 1991, King Saud University, Riyadh, Saudi Arabia

RESEARCH INTEREST

Engineering Mechanics, Materials Engineering, Tribology, Composite and smart materials, Metal and ceramic matrix composites, Processing of advanced materials, Design and modeling of advanced structures, Processing of nano-structured materials,

TEACHING EXPERIENCE

Mechanics of Materials, ME 351, 3 credit hours
Theory of Elasticity, Graduate Course, ME 552, 3 credit hours
Materials Science and Engineering, ME 253, 3 credit hours
Static and Dynamics, GE 210, 3 credit hours
Mechanics of Composite Materials ME691

GRADUATE TRAINING

**Research Assistant, Dept. of Mechanical Engineering, College of Engineering,
University of Washington, (1996-2002)**

Research Intern, Tohoku University, Sendai, Japan, (3/2001-9/2001)
**Research Objective: Design and Processing piezoelectric ceramics for
piezoelectric actuators**

**Research Intern, INEL (Idaho National Engineering Laboratory), Idaho Falls
(8/1997-10/1997)**
Research Objective: Design and Processing of Functionally graded materials

**Instructor, College of Engineering, King Saud University, Riyadh, Saudi Arabia,
(1992-1993)**

RESEARCH FUND

On The Control of a Rotating Cantilever Beam, Supported by College of Engineering Research Center, King Saud University, Research No. 24/227.

High Temperature Deformation of Aluminum Alloy, Supported by SABIC, Research No. 26/215.

Producing Nano-Structured Materials through Novel Techniques, A Research project supported by King Abdulaziz City for Science and Technology (KACST) (٢٦ - ٤ - ٢٠٠٠).

Cracks Identification in beam carrying rigid disk Using measured Dynamic Characteristics through Signal Processing A Research project supported by King Abdulaziz City for Science and Technology (KACST) (٢٦ - ٠٦ - ٢٠٠٠).

PUBLICATIONS (Refereed Journal)

Friedrich, K.; Pei, X-Q; **Almajid, A. A.**, 2013, “Specific erosive wear rate of neat polymer films and various polymer composites” JOURNAL OF REINFORCED PLASTICS AND COMPOSITES Volume: 32 Issue: 9 Pages: 631-643

El-Danaf, Ehab; Baig, Muneer; **Almajid, Abdulhakim**, Alshalfan, Waleed, 2013, “Mechanical, microstructure and texture characterization of API X65 steel, Source” MATERIALS & DESIGN Volume: 47 Pages: 529-538

Friedrich, Klaus; **Almajid, Abdulhakim A.**, 2013, “Manufacturing Aspects of Advanced Polymer Composites for Automotive Applications”, APPLIED COMPOSITE MATERIALS Volume: 20 Issue: 2 Pages: 107-128

Almajid, A.; Friedrich, K.; Noll, A., 2013, “Poly-para-phenylene-copolymers (PPP) for extrusion and injection moulding Part 1 - molecular and rheological differences”, PLASTICS RUBBER AND COMPOSITES Volume: 42 Issue: 3 Pages: 123-128

Sherif, El-Sayed M.; Soliman, Mahmoud S.; El-Danaf, Ehab A.; **Almajid, Abdulhakim**, “Effect of Equal-Channel Angular Pressing Passes on the Corrosion Behavior of 1050 Aluminum Alloy in Natural Seawater”, INTERNATIONAL JOURNAL OF ELECTROCHEMICAL SCIENCE, Volume: 8 Issue: 1 Pages: 1103-1116

Khalil, Khalil Abdelrazek; **Almajid, Abdulhakim A.**; El-Danaf, Ehab A., 2012, “Direct Fabrication of Yttrium Aluminium Garnet Nanofibers by Electrospinning”, INTERNATIONAL JOURNAL OF ELECTROCHEMICAL SCIENCE, Volume: 7 Issue: 12 Pages: 12218-12226

Friedrich, K.; Knoer, N.; **Almajid, A. A.**, 2012, “Processing-Structure-Property Relationships of Thermoplastic Nanocomposites used in Friction and Wear Applications” MECHANICS OF COMPOSITE MATERIALS, Volume: 48 Issue: 2 Pages: 179-192 DOI: 10.1007/s11029-012-9264-8

Sherif, El-Sayed M.; **Almajid, A. A.**; Bairamov, A. K., 2012, “A comparative Study on the Corrosion of Monel-400 in Aerated and Deaerated Arabian Gulf Water and 3.5% Sodium Chloride Solutions”, INTERNATIONAL JOURNAL OF ELECTROCHEMICAL SCIENCE, Volume: 7 Issue: 4 Pages: 2796-2810

Sherif, El-Sayed M.; El-Danaf, Ehab A.; Soliman, Mahmoud S., **Almajid, Abdulhakim, A.** 2012, “Corrosion Passivation in Natural Seawater of Aluminum Alloy 1050 Processed by Equal-Channel-Angular-Press”, INTERNATIONAL JOURNAL OF ELECTROCHEMICAL SCIENCE, Volume: 7 Issue: 4 Pages: 2846-2859

Khalil, Khalil Abdelrazek; **Almajid, Abdulhakim A.**, 2012, “Effect of high-frequency induction heat sintering conditions on the microstructure and mechanical properties of nanostructured magnesium/hydroxyapatite nanocomposites”, MATERIALS & DESIGN, Volume: 36 Pages: 58-68

Soliman, Mahmoud S.; El-Danaf, Ehab A.; **Almajid, Abdulhakim A.**, 2012, “Enhancement of static and fatigue strength of 1050 Al processed by equal-channel angular pressing using two routes”, MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, Volume: 532 Pages: 120-129

Abdu, Mahmoud T.; Soliman, Mahmoud S.; El-Danaf, Ehab A.; **Almajid, Abdulhakim**, 2012, “Creep characteristics and microstructure in nano-particle strengthened AA6082” MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING Volume: 531 Pages: 35-44

Khalil, Khalil Abdelrazek; Sherif, El-Sayed M.; **Almajid, Abdulhakim A.**, 2012, "Corrosion Passivation in Simulated Body Fluid of Magnesium/Hydroxyapatite Nanocomposites Sintered by High Frequency Induction Heating" INTERNATIONAL JOURNAL OF ELECTROCHEMICAL SCIENCE, Volume: 6 Issue: 12 Pages: 6184-6199

Sherif, El-Sayed M.; **Almajid, A. A.**; Bairamov, A. K., 2011, "Corrosion of Monel-400 in Aerated Stagnant Arabian Gulf Seawater after Different Exposure Intervals" INTERNATIONAL JOURNAL OF ELECTROCHEMICAL SCIENCE, Volume: 6 Issue: 11 Pages: 5430-5444

Latief, F. H.; Sherif, El-Sayed M.; **Almajid, A. A.**, Junaidi, H. 2011, "Fabrication of exfoliated graphite nanoplatelets-reinforced aluminum composites and evaluating their mechanical properties and corrosion behavior" JOURNAL OF ANALYTICAL AND APPLIED PYROLYSIS, Volume: 92 Issue: 2 Pages: 485-492

El-Sayed M. Sherif, **Abdulhakim A. Almajid**, 2010, "Surface protection of copper in aerated 3.5% sodium chloride solutions by 3-amino-5-mercapto-1,2,4-triazole as a copper corrosion inhibitor", Journal of Applied Electrochemistry. Accepted

K. Friedrich, T. Burkhart, **A. A. Almajid**, F. Hauptert, "Poly-Para-Phenylene-Copolymer (PPP): A High Strength Polymer with Interesting Mechanical and Tribological Properties", Submitted for publication

Abdulhakim Almajid, Klaus Friedrich, Joachim Floeck, Thomas Burkhart, 2010, "Surface Damage Characteristics and Specific Wear Rates of a New Continuous Carbon Fiber (CF) / Polyetheretherketone (PEEK) Composite under Sliding and Rolling Contact Conditions", Submitted for publication

M. Harrass a,b, K.Friedrich b,c, **A.A.Almajid**, 2010, "Tribological behavior of selected engineering polymers under rolling contact", Tribology International v 43, pp 635–646

Abdulhakim A. Almajid, 2009, "High Temperature Deformation of Solution Treated 7010 Al Alloy", Journal of Engineering Sciences, College of Engineering, King Saud University, Accepted

Almajid, AA; El-Danaf, EA; Soliman, MS, 2009, " Effect of combining plane-strain compression with equal channel angular pressing on mechanical properties and texture development in an Al alloy", Journal of Materials Science, v 44, Issue 20, pp 5654-5661

Aly, MS, **Almajid, A**, Nakano, S, 2009, "Fracture of open cell copper foams under tension", Materials Science and Engineering A-Structural Materials Properties Microstructure and Processing, v 519 , Issue 1-2, pp 211-213

El-Danaf, E; Soliman, M; **Almajid, A** , 2009, Effect of Solution Heat Treatment on the Hot Workability of Al-Mg-Si Alloy", Materials and Manufacturing Processes, v 24, Issue 6 pp 637-643

El-Danaf, EA; **AlMajid, AA**; Soliman, MS, 2008, "Hot deformation of AA6082-T4 aluminum alloy", Journal of Materials Science, v 43, Issue 18, pp6324-6330

E. A. El-Danaf, **A. Almajid** and M.S. Soliman, 2007, "High-Temperature Deformation and Ductility of a Modified 5083 Al Alloy" submitted to publication

E.A. EL-Danaf , M. Soliman, **A. A. Almajid**, and M.M. El-Rayes, 2007, "Enhancement of Mechanical Properties and Grain Size Refinement of Commercial Purity Aluminum 1050

Processed By ECAP” *Material Science and Engineering A* , Volume 458, Issues 1-2 , pp 226-234.

- Kuga Y., Lee S.-W., Taya M., **Almajid A.**, Li J-F, and Watanabe R., 2005,“Experimental and Numerical Studies of Dielectric Properties of BaTiO₃-platinum Composites at Microwave Frequencies”, *IEEE Transaction on Dielectric and Electric Insulation*, v 12,n 4,pp 827-834
- Li, J-F Li, Kenta, T., Ono M., Pan W., Watanabe R, **Almajid A.** and Taya M., 2003, ” Fabrication and Evaluation of Porous Piezoelectric Ceramics and Porosity-Graded Piezoelectric Actuators” *Journal of the American Ceramic Society*, v 86, n 7, pp 1094-1098.
- Taya M., **Almajid A.**, Dunn M., and Takahashi H., 2003“Design of Bimorph Piezo Composite Actuators with Functionally Graded Microstructure,” *Sensors and Actuators, A: Physical*, v 107, n 3, pp 248-260.
- Kenta, T., Li, J-F Li, Yokoyama S., Watanabe R., **Almajid A.** and Taya M., 2002, “Design and fabrication of functionally graded PZT/Pt piezoelectric bimorph actuator,” *Science and Technology of Advanced Materials*, v 3, n 2, pp 217-224.
- Almajid A.** and Taya M., 2002, “2D Elasticity Analysis of FGM Piezo-Laminates under Cylindrical Bending,” *Journal of Intelligent Material Systems and Structures*, v 12, n 5, pp 341-351.
- Almajid A.**, Taya, M., Hudnut, S., 2001, “Analysis of out-of-plane displacement and stress field in a piezocomposite plate with functionally graded microstructure,” *International Journal of Solids and Structures*, v 38, n 19, pp 3377-3391.

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