Ali Sangghaleh
Curriculum Vitae

University of Akron
Department of Civil Engineering
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EDUCATION

University of Akron Since January 2011
PhD Student, Civil Engineering
Advisor: Ernian Pan
Research: *Surface Loading & Internal Defects in Layered Magneto-electro-elastic Materials and Structures*

Sharif University of Technology December 2006
MSc in Materials Science and Engineering
Advisor: Mohammad Halali
Thesis: *Factors Affecting the Wetting of Alumina by Aluminum and Aluminum-Magnesium*

Amirkabir University of Technology September 2004
BSc in Materials Science and Engineering
Advisor: Jamshid Aghazadeh Mohandesi
Thesis: *Development of Aluminum Short Fiber Reinforced Gypsum Composites*

RESEARCH EXPERIENCE

Ohio Department of Transportation January 2011 – December 2012
Research Assistant
Supervisor: Ernian Pan
Research: *Backcalculation of Pavement Layer Elastic Modulus and Thickness*
Final Report: http://trid.trb.org/view.aspx?id=1234050

Sharif University of Technology January 2007 – 2010
Research Assistant, Corrosion and Surface Metallurgy Laboratory
Supervisor: Mohammad Halali, Mohammad Ghorbani
Research: *NiTi Shape-Memory Alloys, Alumina Wetting, Production of Ti Nano Particles*

Rolling Mill & Steel Production Company June – September 2004
Summer Internship, Quality Control Center
Supervisor: Kamran Dehghani
Research: *Slab Analysis via X-Ray Spectroscopy; Hardness, Tensile, and Impact Tests*

Amirkabir University of Technology September 2002 – 2004
Gypsum Composite Materials Group, Department of Mining and Metallurgical Engineering
Supervisor: Jamshid Aghazadeh Mohandesi
Research: *Lightweight Construction Materials: Mechanical Behavior of Fiber Reinforced Gypsum*

PUBLICATIONS

Journal Articles

- Peach-Koehler Force Acting on Charged-Dislocation in AlGaN-GaN Bimaterial Heterostructures. (2014). A. Sangghaleh, E. Pan and X. Han. in preparation

- Effect of Cross-anisotropic Base/Interlayer on the Mechanistic Responses of Layered Pavements. *ASCE Journal of Transportation Engineering* (2014). Y. Cai, A. Sangghaleh and E. Pan. Submitted for publication

- Charged Dislocations in Piezoelectric Bimaterials. *International Journal of Solids and Structures*, 51 (2014) 2648-2655. X. Han, E. Pan, A. Sangghaleh and J. Albrecht.

- Inverse Calculation of Elastic Moduli in Cross-anisotropic and Layered Pavements by System Identification Method. *Inverse Problems in Science and Engineering*, (2014). Y. Cai, E. Pan and A. Sangghaleh. Accepted for publication

- Backcalculation of Pavement Layer Elastic Modulus and Thickness with Measurement Errors *International Journal of Pavement Engineering*, 15 (2014) 521-531. A. Sangghaleh, E. Pan, R. Green, R. Wang, X. Liu and Y. Cai.

- Stress Perturbation Around a Fault by Hydraulic Fracturing *ASCE International Journal of Geomechanics*, (2013). E. Pan, A. Molavi Tabrizi, A. Sangghaleh and K. Xia. Published online

- Fields Induced by Three-Dimensional Dislocation Loops in Anisotropic Magneto-Electro-Elastic Bimaterials *Philosophical Magazine*, 93 (2013) 3291-3313. X. Han, E. Pan and A. Sangghaleh. Cited 1 time

- Circular Loadings on the Surface of an Anisotropic and Magnetoelectroelastic Half-Space *Smart Materials and Structures*, 21 (2012) 075003. H.M. Wang, E. Pan, A. Sangghaleh, R. Wang and X. Han. Cited 6 times

- Strength Assessment and Bonding Study of Anodized Aluminum Short Fiber Reinforced Gypsum Composites *International Journal of Damage Mechanics*, 21 (2012) 129-149. J.A. Mohandesi, A. Sangghaleh and A. Nazari. Cited 1 time

- Analytical Modeling of Strength in Randomly Oriented PP and PPTA Short Fiber Reinforced Gypsum Composites *Computational Materials Science*, 50 (2011) 1619-1624. J.A. Mohandesi, A. Sangghaleh, A. Nazari and N. Pourjavad. Cited 5 times

- Effect of Magnesium Addition on the Wetting of Polycrystalline Alumina by Aluminum *Journal of Applied Surface Science*, 255 (2009) 8202-8206. A. Sangghaleh and M. Halali. Cited 13 times

- An Investigation on the Wetting of Polycrystalline Alumina by Aluminum *Journal of Materials Processing Technology*, 197 (2008) 156-160. A. Sangghaleh and M. Halali. Cited 18 times

Chapters in Books

- Cracks in Transversely Isotropic and Inhomogeneous Elastic Solids. (2014), Encyclopedia of Thermal Stresses. E. Pan, C. Dong, A. Sangghaleh and Y. Zhao.

Conferences, Seminars, and Workshops

- Polarization and Electric Fields in AlGaN/GaN Nitride Heterostructures, *Materials Science & Technology* (MS&T), Pittsburgh PA, October 2014.

- Dislocation-driven Fields in Anisotropic Multiferroic Bilayer Composites with Interface Effects, *17th U.S. National Congress on Theoretical and Applied Mechanics* (USNCTAM), East Lansing MI, June 2014.

- Charged Dislocation Induced Fields in Piezoelectric Heterostructures, *University of Akron Student Innovation Symposium* (UASIS), Akron OH, April 2014.

- Backcalculation of Pavement Properties via System Identification with Applications for Road Evaluation using FWD and GPR, *12th U.S. National Congress on Computational Mechanics* (USNCCM12), Raleigh NC, July 2013. *Received Conference Travel Award*

- Circular Loadings on Magneto-electro-elastic Halfspace, *NSF Workshop on the BEM: Bridging Education and Industrial Applications,* Minneapolis MN, April 2012. *Received Workshop Scholarship Award*

- Shear-Lag Studies in Fiber-Reinforced Composites: Mathematical and Experimental Approach, *11th U.S. National Congress on Computational Mechanics* (USNCCM11), Minneapolis MN, July 2011. *Received University Travel Funding*

- Back-Calculation of Multi-Layered Pavement Properties Using GA Method, *11th U.S. National Congress on Computational Mechanics* (USNCCM11), Minneapolis MN, July 2011.

- *8th fib International PhD Symposium in Civil Engineering*, Copenhagen, Denmark, June 2010.

- Strength of Randomly Oriented and Polymeric Short Fiber Gypsum Composites, *7th Students Congress of Materials Engineering & Metallurgy*, Najafabad, Iran, December 2007.

- An Investigation on the Mechanical Properties of Porous NiTi Shape Memory Alloy Prepared by Powder Metallurgical Method, *Iranian Conference of Materials and Metallurgical Engineering*, *11th Annual Congress of the Iranian Metallurgical Engineers*, Isfahan, Iran, October 2007.

Poster Presentations

- Charged-Dislocation Induced Fields in Piezoelectric AlGaN-GaN Heterostructures, *12th U.S. National Congress on Computational Mechanics* (USNCCM12), Raleigh, NC, July 2013.

- Circular Loadings on Magneto-electro-elastic Halfspace, *University of Akron Student Innovation Symposium* (UASIS), Akron, OH, April 2013.

- Circular Loadings on Magneto-electro-elastic Halfspace, *NSF Workshop on the BEM: Bridging Education and Industrial Applications,* Minneapolis, MN, April 2012.

- Shear-Lag Studies in Fiber-Reinforced Composites: Mathematical and Experimental Approach, *11th U.S. National Congress on Computational Mechanics* (USNCCM11), Minneapolis, MN, July 2011.

HONORS AND AWARDS

- Dean's Graduate Fellowship Award, University of Akron (Summer 2013) *First Rank*
- USNCCM12 Conference Travel Award (Summer 2013)
- BEM Workshop Scholarship Award (Summer 2012)

MEMBERSHIP

Materials Research Society (MRS)	Since 2013
American Society of Mechanical Engineers (ASME)	Since 2012
American Society of Civil Engineers (ASCE)	Since 2011
American Institute of Aeronautics and Astronautics (AIAA)	Since 2011
United States Association in Computational Mechanics (USACM)	Since 2011