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EDUCATION

Ph.D. in Materials Science and Engineering.

April 2013-March 2016.

Polytech Lille, Ecole d'ingénieurs, France.
"Mechanical and Microstructural Characterization of a Dissimilar Friction Stirred Welded Aluminum-to-Magnesium Alloy Sheets."

M.S. in Mechanical Engineering.

September 2009-July 2011.

Djillali Liabes University, Algeria.

B.E. in Mechanical Engineering.

September 2006-June 2009.

Djillali Liabes University, Algeria.

Supplementary education/training.

Texas A&M University at Qatar

Laboratory safety training, Fire extinguisher training, Hazardous waste management training.

The organizational performance group

Team development.

Velosi

Compressed gas safety course, Behavior-based safety awareness, Electrical safety course.

EXPERIENCE

Assistant teacher (January 2018 – Present), Department of Mechanical Engineering, Djillali Liabes University (Algeria).

- ❖ Manufacturing engineering to 2nd year undergraduate students.

Assistant teacher (February 2018 – March 2018), Doctoral school of the Department of Civil Engineering, Djillali Liabes University (Algeria).

- ❖ Have taught Technical English for engineers to 1 year Ph.D students.

Postdoctoral fellow (November 2016 – May 2017), Department of Mechanical Engineering, Texas A&M University at Qatar.

- ❖ Microstructure Sample preparation for multiple metallic alloys containing Nickel, Steel, Magnesium and Aluminum using Standard Metallographic Preparation technique.
- ❖ Microstructural characterization of a dissimilar Nickel-to-nickel weld using friction stir welding technique.
- ❖ Microstructural and mechanical testing of steel and recently developed novel magnesium and aluminum alloys.

Research Associate (April 2013 – July 2015), Department of Mechanical Engineering, Texas A&M University at Qatar.

- ❖ Sample preparation for metallic alloys such as Magnesium and Aluminum alloys using Standard Metallographic Preparation technique.
- ❖ Mechanical characterization and microstructural observation of aluminum alloy at different testing conditions and tensile testing.
- ❖ Microstructural and mechanical characterization of a friction stirred welded (FSW) bimetallic joints at different temperatures and strain rates.

Teaching and mentoring

- ❖ Have supervised and facilitated multiple new research team members and colleagues to support their professional development and enable them to work independently. (November 2016 – May 2017)
- ❖ Have mentored several undergraduate sophomore mechanical engineering students in the metallurgical and mechanical testing laboratories for multidisciplinary undergraduate mechanical engineering projects. (March 2012 – June 2012)

Internship experience

- ❖ Have got a practical training on some products made at “Khenteur Composants Automobiles” company (KCA, Algeria). (February 2009)
- ❖ Have got a complementary practical training for my end-of-study project at “Fabrication de Matériel Agricole” company. (FAMAG, Algeria) (May 2011)

RESEARCH INTERESTS

- ❖ Mechanical behavior and microstructural characterization of materials; Tensile testing, Microhardness and fracture behavior of materials.
- ❖ Experimental analysis and interpretation of the material’s properties for automotive applications.

SKILLS

Technical skills:

Testing and characterization – Instron/MTS testing at different temperatures, heat treatment and annealing of metallic materials, metallography, Optical Microscopy (OM), Scanning Electron Microscopy (SEM), X-ray Diffraction (XRD), Digital Image Correlation (DIC), Energy Dispersive Spectroscopy (EDS), chemical and electrochemical etching, chemical reactions in GloveBox.

Specialty publishing, professional journals, technical writing, R&D.

Time management

- ❖ Crucial for successful completion of my Ph.D. thesis in 3 years.
- ❖ Successfully met all deadlines for submission of multiple reports and presentations.

- ❖ Worked simultaneously on multiple personal development projects and professional projects.

Languages

English (Proficient reading, writing and speaking).

French (Fluent reading, writing and speaking).

Arabic (Native reading, writing and speaking).

Computing skills

Applications: SolidWorks®, Ansys®, Matlab®, Magnisci®, Labview®, OriginPro®, Axiovision®, Mendeley®

Operating systems: Windows, Linux.

Others skills

- ❖ Ability to work as part of a multi-disciplinary team.
- ❖ Good interpersonal, communication and presentational skills.
- ❖ Ability to work long/unsocial hours if necessary.
- ❖ Ability to interact effectively with staff at all levels.
- ❖ Self-motivation.
- ❖ Skilled in computer programming for data analysis.
- ❖ Good organizational and planning skills.
- ❖ Good problem-solving skills.
- ❖ Ability to learn quickly, work under pressure, and willingness to work hard.

PUBLICATIONS

Journal Papers

Dorbane, A., Ayoub, G., Mansoor, B., Hamade, R. F., & Imad, A. (2017). Effect of Temperature on Microstructure and Fracture Mechanisms in Friction Stir Welded Al6061 Joints. *Journal of Materials Engineering and Performance*, 1–13. <https://doi.org/10.1007/s11665-017-2704-9>.

Dorbane, A., Mansoor, B., Ayoub, G., Shunmugasamy, V.C., Imad, A., 2016. Mechanical, microstructural and fracture properties of dissimilar welds produced by friction stir welding of AZ31B and Al6061. *Materials Science and Engineering: A* 651, 720-733.

Dorbane, A., Ayoub, G., Mansoor, B., Hamade, R.F., Kridli, G., Shabadi, R., Imad, A., 2016. Microstructural observations and tensile fracture behavior of FSW twin roll cast AZ31 Mg sheets. *Materials Science and Engineering: A* 649, 190-200.

Dorbane, A., Ayoub, G., Mansoor, B., Hamade, R., Kridli, G., Imad, A., 2015. Observations of the mechanical response and evolution of damage of AA 6061-T6 under different strain rates and temperatures. *Materials Science and Engineering: A* 624, 239-249.

Books Sections

Mansoor, B., **Dorbane, A.**, Ayoub, G., Imad, A., 2015. Friction stir welding of AZ31B magnesium alloy with 6061-T6 aluminum alloy: Influence of processing parameters on microstructure and mechanical properties, in: Mishra, R.S., Mahoney, M.W., Sato, Y., Hovanski, Y. (Eds.), Friction Stir Welding and Processing VIII – The Minerals, Metals and Materials Society. Wiley, Somerset, NJ, pp. 259-266.

Dorbane, A., Ayoub, G., Mansoor, B., Hamade, R., Kridli, G., Imad, A., 2015. Mechanical Response and Evolution of Damage of Al6061-T6 Under Different Strain Rates and Temperatures, TMS Middle East – Mediterranean Materials Congress on Energy and Infrastructure Systems (MEMA 2015). John Wiley & Sons, Inc., pp. 259-265.

Conference Papers

Mansoor, B., **Dorbane, A.**, Ayoub, G., Imad, A., 2015. Friction stir welding of AZ31B magnesium alloy with 6061-T6 aluminum alloy: Influence of processing parameters on microstructure and mechanical properties, TMS Annual Meeting, pp. 259-266.

Dorbane, A., Ayoub, G., Mansoor, B., Hamade, R., Kridli, G., Imad, A., 2015. Mechanical Response and Evolution of Damage of Al6061-T6 Under Different Strain Rates and Temperatures, TMS Middle East – Mediterranean Materials Congress on Energy and Infrastructure Systems, pp. 259-265.

Ammouri, A., Achdjian, H., **Dorbane, A.**, Ayoub, G., Kridli, G., Hamade, R., 2014. Characterization of optimized friction stir welded twin roll cast AZ31B sheets, International Mechanical Engineering Congress and Exposition, Montreal, Canada.

Selected presentations

Mansoor, B., **Dorbane, A.**, Ayoub, G., Imad, A., 2015. Friction stir welding of AZ31B magnesium alloy with 6061-T6 aluminum alloy: Influence of processing parameters on microstructure and mechanical properties, TMS Annual Meeting, Florida, USA.

Dorbane, A., Ayoub, G., Mansoor, B., Hamade, R., Kridli, G., Imad, A., 2015. Mechanical Response and Evolution of Damage of Al6061-T6 Under Different Strain Rates and Temperatures, TMS Middle East – Mediterranean Materials Congress on Energy and Infrastructure Systems. Doha, Qatar.

Selected Posters

Microstructural Study and Mechanical Response of Wrought AA 6061-T6 under Variable Thermo-Mechanical Testing Conditions. **A. Dorbane**, G. Ayoub, R. Hamade, A. Imad. The 3rd Annual TAMUQ Research-Industry Partnership Showcase Event at Texas A&M University at Qatar, in April 7th, 2014.

Mechanical Response, Microstructural Evolution and Damage Mechanisms of Rolled AA 6061-T6 under Variable Thermo-Mechanical Testing Conditions. **A. Dorbane**, G. Ayoub, B. Mansoor, R. Hamade, A. Imad. TMS Middle East. MEMA 2015.

Microstructural and Mechanical Properties of Friction Stirred welded AZ31B Magnesium Alloy Sheets. **A. Dorbane**, B. Mansoor, G. Ayoub, A. Imad. Material Science and Engineering Symposium 2015, Texas A&M University at Qatar.

Friction Stir Welding on dissimilar metals (Al-Mg): Processing parameters and properties. V.C. Shunmugasamy, **A. Dorbane** and B. Mansoor. Industry Showcase 2015 at Texas A&M University at Qatar.

HONORS

Best Poster Award, First Place, Research Track. Microstructural and Mechanical Properties of Friction Stirred welded AZ31B Magnesium Alloy Sheets. Material Science and Engineering Symposium 2015, Texas A&M University at Qatar.

REFERENCES

Pr. Ghassan Kridli

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