

DEPARTMENT OF MINING & MATERIALS ENGINEERING

ANNEX TO DEPARTMENTAL ANNUAL REPORT OF 2016

RESEARCH PUBLICATIONS – Articles in refereed journals

MATERIALS ENGINEERING

BEVAN, K.H.

- A. Iqbal, Md. S. Hossain and K. H. Bevan, "The role of relative rate constants in determining surface state phenomena at semiconductor–liquid interfaces", *Phys. Chem. Chem. Phys.* 18, 29466 (2016).
- N. Wang, K. H. Bevan, and N. Provatas, "Phase-Field-Crystal Model for Electromigration in Metal Interconnects", *Phys. Rev. Lett.* 117, 155901 (2016).
- Md. S. Hossain, A. Iqbal, and K. H. Bevan, "Interfacial Screening in Ultrafast Voltammetry: A Theoretical Study of Redox-Active Monolayers", *Anal. Chem.* 88, 9062 (2016).
- X. Lu, H.-C. Chiu, K. H. Bevan, D.-T. Jiang, K. Zaghbi, G. P. Demopoulos, "Density functional theory insights into the structural stability and Li diffusion properties of monoclinic and orthorhombic $\text{Li}_2\text{FeSiO}_4$ cathodes", *Journal of Power Sources* 318,136 (2016).
- J. A. Salas, K. Varga, J.-A. Yan, and K. H. Bevan, "Electron Talbot effect on graphene", *Phys. Rev. B* 93, 104305 (2016).
- Z. Wang and K. H. Bevan, "Exploring the impact of semicore level electronic relaxation on polaron dynamics: An adiabatic ab initio study of FePO_4 ", *Phys. Rev. B* 93, 024303 (2016).
- M. Smeu, Md. S. Hossain, Z Wang, V. Timoshevskii, K. H. Bevan, K. Zaghbi, "Theoretical investigation of Chevrel phase materials for cathodes accommodating Ca^{2+} ions", *Journal of Power Sources* 306, 431 (2016).

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- A. Ghosh, H.Aydin, D.Goldbaum, J.Arreguin-Zavala, R.Chromik and M. Brochu, "Investigating cube-corner indentation hardness and strength relationship under quasi-static and dynamic testing regimes", *Materials Science and Engineering A*, 677 (2016) 534–539.
- M.M. Tünçay, L. Nguyen, P. Hendrickx, M. Brochu, "Evaluation of the particle bonding for aluminum sample produced by spark plasma sintering", *Journal of Materials Engineering and Performance*, 25, 10 (2016), 4521-4528.
- Y. Tian, R. Gauvin, M. Brochu, "Effect of heat treatments on microstructure evolution and mechanical properties of blended Nickel-based superalloys powders fabricated by laser powder deposition", *Materials Science and Engineering A*, 674 (2016) 646–657.
- Y. Ding, J.A. Muniz-Lerma, M. Trask, S. Chou, A. Walker and M. Brochu, "Microstructure and Mechanical Property Considerations in Additive Manufacturing of Aluminum Alloys", *Materials Research Society Bulletin*, 41, 10 (2016) 745-751.
- Y. Tian, R. Gauvin and M. Brochu, "Microstructure Evolution and Rapid Solidification Behavior of Blended Nickel Based Superalloy Powders Fabricated by Laser Powder Deposition", *Materials Transaction A*, 47, (2016) 3771-3780.
- D. Levasseur and M. Brochu, "Effect of Heating Rate on the Pressureless Sintering Densification of a Nickel-Based Superalloy", *Materials Transaction A*, 47, 5 (2016) p 2257-2266.

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S. Hamidzadeh, N. Alatawneh, R.R. Chromik, D.A. Lowther, "Comparison of different demagnetization models of permanent magnet in machines for electric vehicle application," accepted for publication in *IEEE Transactions on Magnetics* 52 (April 2016).

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