

Career aspirations: Being a scientist who looks solutions for fundamental problems in science.

Education

Michigan Technological University, Houghton, Michigan

PhD. in Chemistry, August 2017-Current

PhD Supervisor: Dr. Kathryn A. Perrine, Department of Chemistry, Michigan Tech.

Institute of Chemistry Ceylon, College of Chemical Sciences, Kotte Rd, Rajagiriya

Graduateship in Chemistry, September 2016

University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka

Bsc (Sp) in Chemistry, December 2014

Research Experience

- Developed new PM-IRRAS method for measuring reactions at the gas/solid and liquid/solid interfaces
- Currently investigating the effect of electrolytes on iron surface corrosion at air/electrolyte/iron interface using *in situ* PMIRRAS. This helps to measure dynamic corrosion, the corrosion products, and reaction mechanisms. (two manuscripts in preparation)
- Investigated deposition growth of iron oxide nanoparticles on carbon surfaces using atomic layer deposition (ALD) for next-generation heterogeneous catalysts
- Ambient Pressure Xray Photoelectron Spectroscopy (AP-XPS) at the Advanced Light Source at Lawrence Berkeley National Laboratory (LBNL) on iron interfaces

Publications

1. **C de Alwis**, KA Perrine, *In Situ* PM-IRRAS at the Air/Electrolyte/Solid Interface Reveals Oxidation of Iron to Distinct Minerals, *The Journal of Physical Chemistry A* 124 (33), 6735-6744
2. **C de Alwis**, TR Leftwich, KA Perrine, New Approach to Simultaneous *In Situ* Measurements of the Air/Liquid/Solid Interface Using PM-IRRAS, *Langmuir* 2020, 36, 13, 3404-3414.
3. **C de Alwis**, TR Leftwich, P Mukherjee, A Denofre, KA Perrine, Spontaneous Selective Deposition of Iron Oxide Nanoparticles on Graphite, *Nanoscale Advances* 1 (12), 4729-4744
4. M Trought, I Wentworth, **C de Alwis**, TR Leftwich, KA Perrine, Influence of surface etching and oxidation on the morphological growth of Al₂O₃ by ALD, *Surface Science* 690, 121479
5. U Kodituwakku, **C de Alwis**, M.A.B. Prashantha, D R Ratnaweera; One Step Synthesis of Polythiophenes from the Partially Purified Crude Extract of the Roots of *Tagetes Erecta*. *International Journal of Chemistry*, Vol. 8, No. 4; 2016, ISSN: 1916-9698