Gavan Rubasinghege
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New Mexico Institute of Mining and Technology,
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EDUCATION AND PROFESIONAL HISTORY

Education and Training

2011 – 2013	Postdoctoral Research Fellow University of Iowa, Iowa, IA
2007 - 2011	Ph.D., Chemistry (2011) University of Iowa, Iowa, IA
2001 - 2005	B.Sc., Chemistry Special (2005) University of Kelaniya, Kelaniya, Sri Lanka

Professional Appointments

2014 – Present	Assistant Professor New Mexico Tech, Socorro, NM
2013 – 2014	Assistant Professor St. Cloud State University, St. Cloud, MN
2011 – 2013	Visiting Assistant Professor University of Iowa, Iowa City, IA
2011 – 2013	Postdoctoral Research Fellow University of Iowa, Iowa, IA
2007 – 2008	Lecturer University of Kelaniya, Kelaniya, Sri Lanka

Selected Honors, Awards and Achievements

2012	Nominee for the Graduate College D.C. Spriestersbach Dissertation Prize – University of Iowa
2010	A. Lynn Anderson Award for Excellence in Graduate Research – University of Iowa.
2010	First Place Presentation Award in Mathematical and Physical Sciences James F. Jacobson Graduate Conference.
2010	Graduate Student Fellowship
2006	Gold Medal for the Inter-university Chemistry Competition organized by Royal Society of Chemistry – SL Division.
2005	Gold Medal for the Best Performance in the Faculty of Science at the B.Sc. Degree Examinations, University of Kelaniya. Sri Lanka.
2005	Gold Medal for the Best Results in Chemistry at the B.Sc. (Special) Degree Program, University of Kelaniya. Sri Lanka.

SCHOLARSHIP

Selected Peer Reviewed Publications

1. Ellepola, N.;Ogas, T.; Turner, D.; Maldonaldo-Torres, S.; Gurung, R.; Tello-Arburto, R.; Patidar, P.; Rogelj, S.; Piyasena, M.; **Rubasinghege, G.*** A Toxicological study on Secondary Residues of Ibuprofen: Environmental and Human Health Implications. *Ecotoxicol. Environ. Saf.*, **2018**, In Preparation.
2. Hettiarachchi, E.; Paul, S.; Cadol, D.; Frey, B.; **Rubasinghege, G.*** Mineralogy Driven Dissolution of Inhaled Uranium in Simulated Lung Fluids (SLFs) and Possible Toxic Effects, *Environ. Sci. Technol.*, **2018**, In Preparation.
3. Thapa, S.; Hettiarachchi, E.; Dickie, D.; **Rubasinghege, G.;*** Qin, Y.* A Charge-Separated Diamondoid Metal-Organic Framework. *Chem. Comm.*, **2018**, Under Review.
4. Hettiarachchi, E.; Reynolds, R.; Goldstein, H.; Moskowitz, B.; **Rubasinghege, G.*** Bioavailable Iron Production in Airborne Mineral-Dust: Controls by Chemical Composition and Solar Flux. *J. Geophys. Res. – Atmos.*, **2018**, Under Review.
5. Maldonado-Torres, S.; Gurung, R.; Rijal, H.; Chan, A.; Acharya, S.; Rogelj, S.; Piyasena, M.; **Rubasinghege, G.*** Fate, transformation, and toxicological impacts of pharmaceutical and personal care products in surface waters. *Environ. Health Insights*, **2018**, 12(1-4).
6. Hettiarachchi, E.; Reynolds, R.; Goldstein, H.; Moskowitz, B.; **Rubasinghege, G.*** Iron dissolution and speciation in atmospheric mineral dust: Metal-metal synergistic and antagonistic effects. *Atmos. Environ.*, **2018**, 187, 417-423.
7. Hettiarachchi, E.; Hurub, O; **Rubasinghege, G.*** Atmospheric processing and iron mobilization of ilmenite: An iron containing ternary oxide in mineral dust aerosol. *J. Phys. Chem. A*, **2018**, 122 (5), 1291-1302.
8. **Rubasinghege, G.***; Gurung, R.; Rijal, H.; Maldonado-Torres, S.; Chan, A.; Acharya, S.; Rogelj, S.; Piyasena, M. Abiotic degradation and environmental toxicity of ibuprofen: Roles of mineral particles and solar radiation, *Water Res.*, Volume 131, **2017**, 22-32.
9. Borcherding, J.; Baltrusaitis, B.; Chen, H.; Stebounova, L. ; Wu, C-M.; **Rubansinghege, G.** ; Mudunkotuwa, I. ; Caraballo, J. ; Zabner, J. ; Grassian, V. H. ; Comellas, A. Iron Oxide Nanoparticles Induce *Pseudomonas Aeruginosa* Growth, Biofilm Formation, and Inhibit Antimicrobial Peptide Function. *Envi. Sci.-Nano*, **2014**, 1, 123-132.
10. Nanayakkara C. E.; Jayaweera P. M.; **Rubasinghege G.**; Baltrusaitis J.; Grassian, V.H. Surface Photochemistry of Adsorbed Nitrate: The Role of Adsorbed Water in the Formation of Reduced Nitrogen Species on α-Fe_2O_3 Particle Surfaces. *J. Phys. Chem. A*, **2014**, 118, 158–166.
11. **Rubasinghege G.**; Ogden S.; Grassian, V.H. Heterogeneous Uptake and Adsorption of Gas-Phase Formic Acid on Oxide and Clay Particle Surfaces: The Roles of Surface Hydroxyl Groups and Adsorbed Water in Formic Acid Adsorption and the Impact of Formic Acid Adsorption on Water Uptake. *J. Phys. Chem. A*, **2013,** 117, 11316–11327.
12. **Rubasinghege G.** and Grassian, V.H. Role(s) of Adsorbed Water in the Chemistry of Environmental Interfaces. *Chem. Comm.* **2013,** 49, 3071-3094.
13. Baltrusaitis, J.; Chen, H.; **Rubasinghege G.** and Grassian, V.H. Heterogeneous Chemistry of Lead Oxide Particles with Gas-phase Nitrogen Dioxide Increases Lead Solubility: Environmental and Health Implications. *Environ. Sci. Technol.* **2012**, 46, 12806-13813.

14. Walker, R. A.; Wilson, K.; Lee, A. F.; Woodford, J.; Grassian, V. H.; Baltrusaitis, J.; **Rubasinghege, G.**; Cibin, G. and Dent, A. *Sci. Rep.,* **2012**, 2, doi:10.1038/srep00880.
15. **Rubasinghege, G**; Kyei, P.; Scherer, M.; Grassian, V. Proton-promoted Dissolution of α-FeOOH Nanorods and Microrods: Size Dependence, Anion Effects (carbonate and phosphate), Aggregation and Surface Adsorption. *J. Colloid Interface Sci.,* **2012**, 385, 15-23.
16. **Rubasinghege, G.**; Grassian, V. H. Surface-catalyzed Chlorine and Nitrogen Activation: Mechanisms for the Heterogeneous Formation of ClNO, NO, NO_2, HONO and N_2O from HNO_3 and HCl on Alumina. *J. Phys. Chem. A*, **2012**, 116, 5180-5192.
17. Wijenayaka, L.; **Rubasinghege, G.**; Baltrusaitis, J; Grassian, V. Surface Chemistry Of α-FeOOH Nanorods and Microrods with Gas-Phase Nitric Acid and Water Vapor: Insights into the Role of Particle Size, Surface Structure and Surface Hydroxyl Groups in the Adsorption and Reactivity of α-FeOOH With Atmospheric Gases. *J. Phys. Chem. C,* **2012**, 116, 12566–12577.
18. **Rubasinghege, G**; Spak, S.; Stanier, C. O.; Carmichael, G. R.; Grassian, V. H. An Abiotic Mechanism for the Formation of Atmospheric Nitrous Oxide from Ammonium Nitrate. *Environ. Sci. Technol.* **2011,** 45, 2691-2697.
19. **Rubasinghege, G.**; Elzey, S.; Baltrusaitis, J.; Jayaweera. P. M.; Grassian, V. H. Reactions on Atmospheric Dusts: New Mechanisms and Pathways Identified in Laboratory Studies-Surface Photochemistry and Size-dependent Nanoscale Redox Chemistry. *J. Phys. Chem. Lett.* **2010**, *1*, 1729–1737.
20. **Rubasinghege, G.**; Lentz, R. W.; Scherer, M. M.; Grassian, V. H. Simulated Atmospheric Processing of Iron Oxyhydroxide Minerals at Low pH: Roles of Particle Size and Acid Anion in Iron Dissolution. *Proc. National. Acad. Sci.* **2010**, *107*, 15 6628-6633.
21. **Rubasinghege, G.**; Lentz, R. W.; Park, H.; Scherer, M. M.; Grassian, V. H. Nanorod Dissolution Quenched in the Aggregated State. *Langmuir* **2010**, *26*, 1524-1527.
22. **Rubasinghege, G.**; Grassian, V. H. Photochemistry of Adsorbed Nitrate on Aluminum Oxide Particle Surfaces. *J. Phys. Chem. A* **2009**, *113*, 7818-7825.
23. Schuttlefield, J.; **Rubasinghege, G.**; El-Maazawi, M.; Bone, J.; Grassian, V. H. Photochemistry of Adsorbed Nitrate. *J. Am. Chem. Soc.* **2008**, *130*, 12210-12212.

Selected Conferences and Symposia

2018 "Stability and Biological Activities of Pharmaceuticals and Personal Care Products in Open Water Bodies: Roles of Environmental Factors" – Oral, 256th American Chemical Society (ACS) National Fall Meeting, Boston, MA.

2018 "Fate, Transformation and Toxicological Impacts of Pharmaceutical and Personal Care Products in Surface Waters" – Oral, NM-INBRE Conference, Albuquerque, NM.

2017 "Abiotic Degradation and Toxicological Impacts of Pharmaceuticals and Personal Care Products (PPCPs) in Surface Waters: Roles of Mineral Sediments and Solar Radiation" – Oral, 50th AGU National Fall meeting, New Orleans, LA.

2017 "Abiotic Degradation and Environmental Toxicity of Selected Pharmaceutical and Personal Care Products: Roles of Mineral Particles and Solar Flux" – Oral, RAIN Conference, Big Sky, Montana

2017 "Abiotic Degradation and Environmental Toxicity of Selected Pharmaceutical and Personal Care Products: Roles of Mineral Particles and Solar Flux" – Oral, NM-INBRE Conference, Santa Fe, NM.

2016 "Atmospheric Feed of Bioavailable Iron to Ocean Life: Processing of Ion Containing Mineral Dust under low pH Atmospheric Conditions" – Invited Talk, University of Kelaniya, SL.

2016 "Toxicological Impacts of Pharmaceuticals and Personal Care Products on Water Quality: Environmental Fate, Transformation and Health Effects" – Poster, 49th AGU National Fall meeting, San Francisco, CA.

2016 "Toxicological Implications of Pharmaceuticals and Personal Care Products on Aquatic Life and Human Health: Roles of Soil Particles and Solar Flux in PPCP Degradation in Open Water Bodies" – Poster, Society for Environmental Toxicology and Chemistry (SETAC), Orlando, FL

2016 "Environmental Fate, Transformation and Long-term Health Effects of Pharmaceutical and Personal Care Products (PPCPs)" – Poster, NM-INBRE Conference, Santa Fe, NM.

2015 "Atmospheric Processing of Iron-Containing Mineral Dust Aerosol: A Major Source of Bioavailable Iron to Ocean Life" in the session "Long-Range Transport of Dust and Pollution in the Past, Present, and Future" – Oral, 48th AGU National Fall meeting, San Francisco, CA.

2015 "Linking Biological Activity of Ocean Diatoms to Atmospheric Processing of Fe-containing Minerals: Molecular Level Insights" - Poster, Gordon Research Conference, Waterville Valley, NH

2014 "Heterogeneous Uptake and Adsorption of Gas-phase Formic Acid on Oxide and Clay Particle Surfaces: The Role of Adsorbed Water in Formic Acid Adsorption and the Impact of Formic Acid Adsorption on Water Uptake" - Oral, 247th ACS National Conference, Dallas, TX.

2012 "Abiotic Mechanisms for the Formation of Greenhouse Gases from Heterogeneous Atmospheric Chemistry and Photochemistry *(Invited)*" – Substituted for Professor Vicki Grassian - Oral, 45th AGU National Fall meeting, San Francisco, CA.

2012 "Continued Chemistry and Photochemistry of Nitrate Adsorbed on Mineral Dust Particles" – Poster, 45th AGU National Fall meeting, San Francisco, CA.

2012 "Size-dependent Behavior of Iron Oxyhydroxide Minerals: Surface Adsorption and Iron Dissolution in the Presence of Polyatomic Oxyanions" – Poster, 243rd ACS National Conference, San Diego, CA

2011 "Simulated Atmospheric Processing of Iron Oxyhydroxide Minerals at Low pH: Roles of Particle Size, Light and Oxyanion in Iron Dissolution" – Oral, 241st ACS National Conference, Anaheim, CA

2010 "Photochemistry of Adsorbed Nitrate on Aluminum Oxide Particle Surfaces" – Poster, 240th ACS National Conference, Boston, MA

2010 "Abiotic Mechanism for the Formation of Atmospheric Nitrous Oxide from Ammonium Nitrate" – Oral, 45th Midwest ACS Conference, Wichita, KS