Janya Lumbini Subasinghe

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ACADEMIC INFORMATION

Wayne State University, USA Aug 2023 - present
Graduate student
Walker Lab

University of Jaffna, Sri Lanka 2017 - 2021
Bachelor of Science Honours in Chemistry, Second Class (Upper Division), GPA: 3.6/4.0
Thesis;
A computational study of the crystallography, defects, ion migration and dopants of Almandine

RESEARCH EXPERIENCE

Department of Chemistry, University of Jaffna, Sri Lanka, *Undergraduate researcher*
Advisor: Prof. G. Shashikesh Dec 2020 – Aug 2021

- Calculated the formation energies of intrinsic defects, Fe ion diffusion pathways, and solution of divalent, trivalent, and tetravalent dopants by the classical pair potential method, as implemented in the GULP (General Utility Lattice Program) package
- Published work in *physchem*

Vidyavardhaka College of Engineering, Mysore, India, *Collaborative researcher* Dec 2021 – Feb 2022

- Synthesized Sr2MgSi2O7:Dy3+ NCs by low temperature solution combustion method
- Molecular dynamic simulations were carried out using the GULP program to simulate the structural and mechanical properties of the nanocomposites
- Published work in *J. Solid State Chem*
- The powder X-ray diffraction data of DCH-32, Zabid, and Kapok, were obtained and used along with different statistical tools to obtain their physio-mechanical properties
- Employed Functional data analysis to obtain the correlation amongst different physical properties

Department of Chemistry, University of Jaffna, Sri Lanka, *Collaborative researcher* Feb – July 2022

- Identified 8 potential tyrosine kinase inhibitors through chemoinformatic and structure-based virtual screening approaches by applying a combination strategy of bio-isosteric replacement and conformational restrictions based on the structures of Nilotinib and Ponatinib

LABORATORY AND COMPUTATIONAL SKILLS

Computational: GULP, Gaussian, Amber, GDIS, VESTA, Autodock Vina, MGL tools, Avogadro, OpenBabel, ChimeraX, PyMOL, ELATE, Microsoft Word/Excel/PowerPoint
Experimental: UV-VIS spectroscopy, XRD, FTIR, NMR, TLC

PUBLICATIONS

Journal Publications

- Subasinghe, J. L., Ganeshalingam, S., & Kuganathan, N. (2022). Computational study of crystallography, defects, ion migration and dopants in Almandine Garnet. Physchem, 2(1), 43–51. https://doi.org/10.3390/physchem2010004
- Hegde, V. N., R, J. K., R, B. K., Lumbini, J., Somashekar, R., Nagabhushana, H., & Manju, V. V. (2022). Structural, morphological, and mechanical properties of Dy3+ doped Sr2MgSi2O7 nanocomposites. Journal of Solid-State Chemistry, 315, 123501. https://doi.org/10.1016/j.jssc.2022.123501
- Manju, V. V., Hegde, V. N., Lumbini, J., Divakara, S., & Somashekar, R. (2023). Analysis of structural and elastic properties of Kapok fibre and hybrid cottons for textile applications. Advances in Materials and Processing Technologies, 1–19. https://doi.org/10.1080/2374068x.2023.2168305

Journal Papers in Review

- Vinayakprasanna N Hegde; V V Manju; Janya Lumbini; Shalani Shanika; Somashekar R (2024) "Effect of Calcination Temperature on Structural, Morphological, Elastic and Electrical Properties of MgO Nanoparticles Synthesised by Combustion Method" Submitted to: Arabian Journal for Science and Engineering (AJSE)

Conference Papers

- Subasinghe, J.L., and Kumari, H.M.S.A, "An *In-silico* Identification of Potential Tyrosine Kinase Inhibitors for Wild-Type and Drug Resistant T315I Mutant in CML," YSCMR (2022), Nov. 10, 2022, CMT-ID-80

AWARDS/HONOURS

National Winner and Global Finalist, *United Nations (UN) Generation Unlimited Challenge*	2020
Winner of 3-minute thesis competition, *University of Jaffna*	2021
National Winner and Global Finalist, Daring Debates International debate competition organized by *tve* and *Difficulty Dialogues*	2021
National runner-up at State Level Chemistry Debate Championship, *Institute of Chemistry Ceylon, Sri Lanka*	2019, 2020
Best Speaker Medal Awards, Inter-level debate Competition, *University of Jaffna*	2019, 2017

TEACHING EXPERIENCE

Graduate Teaching Assistant at Wayne State University	2023 – present
Tutor at Third Space Global (Pvt.) Ltd	2021 - 2022

ACTIVITIES

Secretary, Chemical Society, University of Jaffna	2020 – 2021
Project CUCA -Developed an anti-bedsore material mat integrated with posture detection model (third year)	Aug 2019
Captain, UOJ Debate Community	2020 - 2021
Project Give Back Life - A joint initiative with !dea Factory and Coca-Cola Company to install RVMs to promote plastic recycling (fourth year)	March 2020