

# A. K. D. VEROMEE KALPANA WIMALASIRI

PhD (Reading), BSc (Special) in Biochemistry and Molecular biology

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## GENERAL PROFILE

I am a graduate with second upper-class honours in B.Sc. (Biochemistry and Molecular biology special) degree at the Faculty of Science, University of Colombo and self-motivated academic who enjoys teaching by raising standards and ensuring that student acquire and consolidate knowledge, skills, and understanding of the subject being taught.

## ACADEMIC PROFILE

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- **Graduated Research assistant** of a collaborative project between the Department of Chemistry, University of Colombo and National research council (NRC) (Target oriented research project (NRC 16-18)) and involved with studies related to development of advanced nanomaterial and supersorbents for water purification. (April 2017 – 2021)
- **B.Sc. special degree in Biochemistry and Molecular Biology with honors (second upper division) , GPA: 3.45**  
Faculty of Science, University of Colombo. (2008-2012)  
  
Main Subjects: Biochemistry, Molecular Biology, chemistry, Computer Science, Nanotechnology  
  
Other subjects: Zoology, Microbiology, Cell biology

## AWARDS

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- **Best Oral presentation award – SLAAS Annual Sessions 2020**

## PROFESSIONAL QUALIFICATIONS

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**Visiting lecturer teaching Nanotechnology** for Biotechnology students at Department of Biotechnology, BMS School of Science , Galle Road, Colombo 06 (August 2018 – December 2020)

**Graduated Research assistant – University of Colombo** (April 2017 - April 2020)

**Research Scientist - Sri Lanka Institute of Nanotechnology (SLINTEC)** (April 2013 – April 2017)

**Biochemistry Teaching Assistant - University of Colombo** (January 2013 – February 2013)

Have a fully conversant with the use of PCR instrument, fluorescence spectrometer , Optical Microscopes , FT-IR, AAS, UV- Visible spectrophotometer, TGA, DSC, XRD, MP-AES, Particle Size Analyzer, Extensometer, Internal mixer, Rheometer, Hardness meter, Densometer and Viscometer.

## **RESEARCH PROFILE**

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### **Research involvement at University of Colombo**

- Development of advanced nanomaterial and supersorbents for water purification – (2017- present)
- Development of anti-bacterial nanomaterials and its uses in water purification and fabric materials (2017 – present)
- Development of hydroxyapatite coated iron oxide magnetic nanoparticles to separate single and double stranded DNA – undergraduate independent Research (2011 -2012)

### **Research involvement at Sri Lanka Institute of Nanotechnology (SLINTEC)**

- Development of heterogeneous bimetallic catalytic system for carbon- carbon cross coupling reactions and oxidation reaction (metal polyketone complexes based catalysts).
- Development of graphene oxide grafted cellulose fibers as efficient absorbents for removal of heavy metal ions
- Synthesis of hollow calcium carbonate for specific targeted delivery and controlled release of cosmetics and drugs
- Development of slow releasing urea fertilizer
- Development of natural rubber – montmorillonite clay nanocomposite master batch with improved mechanical properties
- Development of modified silica based superhydrophobic nanocoatings for natural rubber surfaces
- Development of polyvinyl alcohol – montmorillonite nanocomposites for solvent barrier applications in natural rubber gloves

## **PUBLICATIONS**

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### **Journal Article [International]**

- **Wimalasiri. A.K.D.V. K.**, Weerathunga. H., Kottegoda. N., Karunaratne. V., *Silica Based Superhydrophobic Nanocoatings for Natural Rubber Surfaces*, Journal of Nanomaterials, 1-14, 2017
- Fernando M. S., **Wimalasiri. A.K.D.V. K.**, Ratnayake S.P., Jayasinghe J. M. A.R.B., William G. R.,Dissanayake D.P., De Silva K. M. N., De Silva, W.R.M., *Improved nanocomposite of*

*montmorillonite/hydroxyapatite for defluoridation of water*, RSC advances, 9, 35588-35598, 2019.

- **Wimalasiri. A.K.D.V. K.**, Fernando M. S., William G. R., Dissanayake D.P., De Silva K. M. N., De Silva, W.R.M., *Microwave assisted accelerated fluoride adsorption by porous nanohydroxyapatite*, Journal of Materials chemistry and physics Volume 257, 1 January 2021, 1123712
- **A.K.D. Veromee Kalpana Wimalasiri** , M. Shanika Fernando , Karolina Dziemidowicz, Gareth R Williams , K. Rasika Koswattage, D. P. Dissanayake , K. M. Nalin de Silva , W. Rohini M. de Silva, Structure–Activity Relationship of Lanthanide-Incorporated Nano-Hydroxyapatite for the Adsorption of Fluoride and Lead, *ACS Omega* 2021, 6, 21, 13527–13543
- M. Shanika Fernando, **A.K.D. Veromee Kalpana Wimalasiri** , M. Shanika Fernando , Karolina Dziemidowicz, Gareth R Williams , K. Rasika Koswattage, D. P. Dissanayake , K. M. Nalin de Silva , W. Rohini M. de Silva, Biopolymer-Based Nanohydroxyapatite Composites for the Removal of Fluoride, Lead, Cadmium, and Arsenic from Water *ACS Omega* 2021, 6, 12, 8517–8530

## Conference Proceedings

### 2020

- Kinetic and thermodynamic analysis of fluoride removal by lanthanides incorporated hydroxyapatite: SLAAS Annual Sessions 2020, 16/12/2020 in Colombo.
- Nano zirconia and zirconia incorporated biopolymer nanocomposites for water purification: SLAAS Annual Sessions 2020, 16/12/2020 in Colombo.
- Synthesis of MMT-La-Alginate composite for water purification: Annual research symposium, University of Colombo, 17/12/2020
- Multifunctional HAP nanocomposites for antimicrobial activity: Multifunctional HAP nanocomposites for antimicrobial activity: Annual research symposium, University of Colombo, 17/12/2020

### 2019

- Comparative study of the adsorption of lead (ii) and fluoride ions onto hydroxyapatite, hydroxyapatite - ceria and lanthanum impregnated hydroxyapatite – ceria: 6<sup>th</sup> international conference on nanoscience and nanotechnology (ICNSNT) on 12<sup>th</sup> of December 2019 in Colombo, Sri Lanka.

- Synthesis of Vanadium pentoxide impregnated hydroxyapatite and its application in drinking water purification: Annual research symposium, University of Colombo, October 2019
- Nanocomposites of hydroxyapatite with natural clay for water purification: 6<sup>th</sup> international conference on nanoscience and nanotechnology (ICNSNT) on 13<sup>th</sup> of December 2019 in Colombo, Sri Lanka.
- Hydroxyapatite based nanocomposites to remove arsenic from water: Annual research symposium, University of Colombo, October 2019.

## **2018**

- Rapid water decontamination using hydroxyapatite – ceria nanohybrids: 5<sup>th</sup> international conference on nanoscience and nanotechnology (ICNSNT) on 14<sup>th</sup> of December 2018 in Colombo, Sri Lanka.
- Hydroxyapatite – ferrihydrite nanohybrids for the removal of lead and fluoride: Annual research symposium, University of Colombo, October 2018
- Hydroxyapatite based nanocomposites with biopolymers and granular activate carbon to remove different types of contaminants from water: 5<sup>th</sup> international conference on nanoscience and nanotechnology (ICNSNT) on 14<sup>th</sup> of December 2018 in Colombo, Sri Lanka.
- Modified carboxymethyl cellulose and nanocellulose based materials to be used in water purification: Annual research symposium, University of Colombo, October 2018.

## **2017**

- Synthesis of hollow microspheres of hydroxyapatite *via* the polymer - surfactant supramolecular system and its application in water purification: Fluoride and dye (congo red) removal: 4<sup>th</sup> international conference on nanoscience and nanotechnology (ICNSNT) on 14<sup>th</sup> of December 2017 in Colombo, Sri Lanka.
- Synthesis of hollow microspheres of hydroxyapatite *via* the polymer - surfactant supramolecular system and its application in water purification: lead and cadmium removal: Annual research symposium, University of Colombo, October 2017.

## **2016**

- Cellulose Fibers grafted with graphene oxide and reduced graphene oxide as efficient absorbents for removal of heavy metal ions: 3<sup>rd</sup> International conference on Nanoscience and Nanotechnology (ICNSNT) on 14<sup>th</sup> of December 2016 in Colombo, Sri Lanka.

## **2015**

- Effect of nano calcium carbonate on vulcanization characteristics and mechanical properties of natural rubber latex/ montmorillonite clay nanocomposite: 2<sup>nd</sup> Biennial international symposium on Polymer Science and Technology – IIUPST April 2015.

- Polyvinyl alcohol-montmorillonite nanocomposites for solvent barrier applications in natural rubber gloves: 2<sup>nd</sup> Biennial international symposium on Polymer Science and Technology – IIUPST April 2015.

## 2012

- Use of Magnetic Nanoparticles to separate Single and Double Stranded DNA: National Nanotechnology Conference, 2012

## EXTRA CURRICULAR ACTIVITIES

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- A member of the Organizing Committee of SLASS exhibition (Nanotechnology stole) held at University of Colombo - 2018
- Voluntary member in National Science Foundation (NSF) in organizing science camps and workshops to educate school children and teachers (2013 - Wadduwa, Sri Lanka)
- Active Member of the Chemical Society, University of Colombo (Organizing 'Sahas' project, Chemistry Quiz competition for school students, Chemistry Day and other charity work related to Chemsoc, faculty of Science, University of Colombo - (2011-2012)
- Won the inter faculty Elle 1st runner's up trophy, UOC – 2011

## PERSONAL INFORMATION

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Name in full : Amugoda Kankanamge Dona Veromee Kalpana Wimalasiri  
Date of birth : 30/01/1988  
Gender : Female  
Nationality : Sri Lankan  
Marital status : Married  
NIC Number : 198853001452

## NON-RELATED REFEREES

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### **Prof. W. R. M. De Silva**

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Department of Chemistry,  
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### **Prof. K. M. Nalin De Silva**

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I do hereby certify that the above mentioned information are true and correct to the best of my knowledge.

A.K.D.V.K. Wimalasiri

20/12/2020