



# Nilwala Kottegoda

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Google Scholar: <https://scholar.google.com/citations?user=4eJSvtQAAAAJ&hl=en>

## PERSONNEL PROFILE

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Ph.D. in Material Science with over 20 years' extensive experience in higher education teaching and administration, advanced research and development, research and institutional management, Intellectual Property generation, research commercialization, science policy development, curriculum development and science popularization/communication.

## EDUCATION

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- **University of Cambridge, Cambridge, UK** 2002 – 2006  
PhD in Materials Chemistry  
Thesis Title: Synthesis and Exfoliation of Layered Double Hydroxides (LDHs): Characterization and Applications In LDH/Polymer Nanocomposites  
Advisor: Professor W. Jones
- **University of Peradeniya, Peradeniya, Sri Lanka** 1996 – 2000  
BSc Honors Degree in Chemistry, First class (Hons.)
- **University of Colombo, Sri Lanka** 2001-2002  
Diploma in Teaching in Higher Education

## PROFESSIONAL EXPERIENCES

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### ➤ UNIVERSITY TEACHING & ADMINISTRATION

<b>Department of Chemistry, University of Sri Jayewardenepura, Sri Lanka</b>	2007 - Present
Head of the Department	2019 - 2022
Professor in Chemistry	2016 -Present
Senior Lecturer	2007 - 2016
<b>Department of Materials Engineering and Nano Science, Rice University, Houston, USA</b>	Mar - Sep 2018
Fulbright fellow	
Visiting Accademic	Aug 2022-
<b>Department of Chemistry, University of Peradeniya, Sri Lanka</b>	2000 - 2007

Senior Lecturer  
Lecturer

2006 – 2007  
2000 – 2006  
(On study leave from 2002 – 2005)

➤ **RESEARCH & ADMINISTRATION**

**Sri Lanka Institute of Nanotechnology/ SLINTEC Academy**

2019	Principal Research Scientist and Provost	2017 –
	(On sabbatical leave)	
	Senior Research Consultant – part time	2013 –2017
	Senior Research Scientist and Analytical Services Manager	2009 – 2013
	(Seconded for National Services from the University)	

**AWARDS & ACHIEVEMENTS**

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|---|------|
| ▪ Sri Lanka Association for the Advancement of Science General research Award (Life time Award)                           | 2020 |
| ▪ Bernard Soysa Memorial Award  | 2019 |
| ▪ Iron Citizen Award for contribution to science and economic development   | 2019 |
| ▪ Selected as one of the nine most inventive women scientists in the world<br>(Intellectual Property Organization - WIPO) | 2018 |
| ▪ Presidential research award   | 2018 |
| ▪ Fulbright research fellow- Rice University, Houston USA   | 2018 |
| ▪ Sakura – Japan-Asia Youth Exchange Program in Science   | 2017 |
| ▪ National Research Council Merit Award   | 2015 |
| ▪ Overseas Training Fellowship, National Science Foundation   | 2015 |
| ▪ Visiting Fellow at Department of Chemistry, Loughborough University, UK   | 2015 |
| ▪ National award for popularization of science  | 2014 |
| ▪ Training scholarship in the “Women in Science and Technology” State Department, USA                                     | 2013 |
| ▪ The World Academy of Science Young Scientist Award  | 2013 |
| ▪ National Science Foundation SUSRED award for supervision of MPhil   | 2012 |
| ▪ National Science and Technology Awards for the best innovation with commercial potential                                | 2010 |
| ▪ Cambridge Commonwealth Trust Scholarship  | 2002 |
| ▪ Overseas Research Students (ORS) Award- University of Cambridge   | 2002 |
| ▪ University Scholarship for the best performances at the BSc Special Degree in Chemistry                                 | 2000 |
| ▪ Gold Medal for the best performances at the Interuniversity Chemistry Intelligence Test conducted                       | 1999 |

by the Royal Society of Chemistry

## PATENTS, INNOVATIONS, COMMERCIALIZATION and PUBLICATIONS

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### ➤ PATENTS (Received)

1. Kasun Laknath, Imalka Munaweera, Sriyani M Pieris, Colin Pieris, **Nilwala Kottegoda**, Method of Making Silver-Iron Titanate Nanoparticles and Uses Thereof, PCT/IB2021/053178, April 16, 2022
2. Thilini Amarasekara, Imalka Munaweera, Veranja Karunaratne, Composition and Method to Manufacture Nano-Rock Phosphate and urea Modified Nano-Rock Phosphate for Fertilizer Applications, LK/2021/21626, January 2022 and PCT
3. Amaratunga, G., Fernando, N., Priyadharshana G., Karunaratne, V., **Kottegoda, N.** Method of producing Titanium from Titanium Oxide through Magnesium vapour reduction Second patent: US10927433B2, February 23 2021.
4. **Nilwala Kottegoda**, Madhavi de Silva, Veranja Karunaratne, A method of synthesizing urea-hydroxyapatite nanohybrid fertilizers, LK/2019/P/20717, Jan 2021
5. Abayaweera, G., Amaratunga, G., Fernando, N., Karunaratne, V., **Kottegoda, N.** and Ekanayake, R. Method of producing Titanium from Titanium Oxide through Magnesium vapour reduction: US10316391B2, June 11 2019.
6. Veranja Karunaratne, Gayan Priyadarshana, **Nilwala Kottegoda**, Sunanda Gunasekara, Athula Senaratne, Process For Preparation Of Nanoparticles From Magnetite Ore, US 10192660B2, Jan 29 2019.
7. **Nilwala Kottegoda**, Gayan Priyadarshane, Chanaka Sandaruwan, Damayanthi Dahanayake, Sunanda Genesekara, A J Gehan Amaratunge, Veranja Karunaratne, Composition and Method for Sustained Release of Agricultural Macronutrients, a continuation-in-part of U.S. application Ser. No. 12/794,741, US 8 696 784 B2, April 15 2014.
8. **Nilwala Kottegoda**, Imalka Munaweera, Nadeesh Madusanka, Veranja Karunaratne, Compositions for Sustained Release of Agricultural Macronutrients and Process There of, US 8 361 185 B2, Jan 29 2013
9. **Nilwala Kottegoda**, Imalka Munaweera, Nadeesh Madusanka, Ajith De Alwis, Sunanda Gunasekara, Veranja Karunaratne, A Cellulose Based Sustained Release Macronutrient Composition for Fertilizer Application, US 8 617 284 B2, Dec 13 2013.
10. **Nilwala Kottegoda**, Imalka Munaweera, Nadeesh Madusanka, Ajith De Alwis, Sunanda Gunasekara, Veranja Karunaratne, A Cellulose Based Sustained Release Macronutrient Composition for Fertilizer Application, CN102985393B1, Dec 10 2014 (Chinese patent).
11. **Nilwala Kottegoda**, Gayan Priyadarshane, Chanaka Sandaruwan, Damayanthi Dahanayake, Sunanda Genesekara, A J Gehan Amaratunge, Veranja Karunaratne, Composition and Method for Sustained Release of Agricultural Macronutrients, 1-2015-501297, July 2018. (Philippine patent).
12. Imalka Munaweera, **Nilwala Kottegoda**, Lakshman Nethsinghe, Sunil Fernando, Elastomeric Polymer/Spinel Nanoparticle Composites To Introduce Special Properties To Dipped Articles, Sri Lankan patent 15164 – Product is already in the market

### ➤ PATENT APPLICATIONS

1. Chamalki Madhisha, Imalka Munaweera, Chandani Perera, **Nilwala Kottegoda**, A process for manufacturing functionalized activated nanoporous carbon and use thereof, PCT/IB2022/051863
2. Chamalki Madhisha, Imalka Munaweera, Chandani Perera, **Nilwala Kottegoda**, Electrospun activated carbon nanofibrous membrane as an efficient and multi-purpose smart nanomaterial for drinking water purification LK/P/1/22287
3. Piyumi Kanchana, Imalka Munaweera, Dilushan Jayasundara, Randika Jayasinghe, Tharanga Thoradeniya, **Nilwala Kottegoda**, Modified ilmenite nanohybrid materials for food packaging applications and a mechanochemical method of preparation thereof, LK/21845, 2022
4. Abayaweera, G., Amaratunga, G., Fernando, N., Karunaratne, V., **Kottegoda, N.** and Ekanayake, R. A Method Of Producing Titanium From Titanium Oxides Through Magnesium Vapour Reduction: PCT/IB2017/054541, 2017.
5. **Nilwala Kottegoda**, D A S Siriwardene, W M G I Priyadarshane, Chanaka Sandaruwan, D A D Madusanka, U A Ratnayake, Damayanthi Dahanayake, Sunanda Genesekara, Ajith De Alwis, Asurusinghe Kumarasinghe, A J

Gehan Amaratunge, Veranja Karunaratne, Composition and Method for Sustained Release of Agricultural Macronutrients, a continuation-in-part of U.S. application, US 20140165683 A1, 12<sup>th</sup> June 2014

6. Imalka Munaweera, **Nilwala Kottegoda**, Lakshman Nethsinghe, Sunil Fernando, Elastomeric Polymer/Spinel Nanoparticle Composites To Introduce Special Properties To Dipped Articles, WO/2010/046789
7. Samaranayake, L., **Kottegoda, N.**, Kumarasinghe, A.R., De Alwis, A., Gunasekara, S., Nanayakkara, S. and Karunaratne, V., A Process for Preparation of Carbon Nanotubes from Vein Graphite: US patent application, 12,766,888, 2010.

#### ➤ **INNOVATIONS LEADING to Tech Transfer**

1. “Slow and Sustained Release Nano-fertilizer, Nagarjuna Fertilizer Ltd., India – technology transfer March 2012
2. “Deflouridation and removal of water hardness using low cost sachet type water filters based on activated carbon derived from waste coconut coir” – Partners: Anunine Holdings Pvt Ltd and National Research Council of Sri Lanka, 2019

#### ➤ **BOOK CHAPTERS**

1. Susanthi Jayasinghe, , Imalka Munaweera, Disni Dedunupitiya, Chamalki Madhusa, Nilwala Kottegoda, and Veranja Karunaratne, Nanotherapeutics Recent Patents Available on Hepatocellular Carcinoma in Nanotherapeutics for the Treatment of Hepatocellular Carcinoma, Biswajit Mukherjee (Ed.), Bentham Science Publishers, 2021, 451-490
2. Nanotechnology can be beneficial for the environment in Nanotechnology edited by Noah Berlatsky, Farmington Hills, Mich : Greenhaven Press, A part of Gale, Cengage Learning, 2014

#### ➤ **JOURNAL PUBLICATIONS**

1. Piyumi Kodithuwakku, Dilushan Jayasundara, Imalka Munaweera, Randika Jayasinghe, Tharanga Thoradeniya, Manjula Weerasekera, fPulickel M.Ajayan, **Nilwala Kottegoda**, A Review on Recent Developments in Structural Modification of TiO<sub>2</sub> For Food Packaging Applications, Progress in Solid State Chemistry, 2022, In Press
2. Chamalki Madhusa , Madhavi de Silva , Imalka Munaweera, Chandani Perera and **Nilwala Kottegoda**, The Quest for Sustainable Catalysis through Transition Metal Doped Carbon-based Single-Atom Catalysts, Iranian Journal of Catalysis, 2022 (Accepted)
3. Prasad Disanayake, Chamalki Madhusa, Imalka Munaweera, Gayan Wijesinghe, Manjula Weerasekera, Samitha Deraniyagala, **Nilwala Kottegoda**, Microwave Assisted Synthesis of Cobalt Doped Rutile/Ilmenite Derived from Natural Sands as Visible Light Active Photocatalytic and Antimicrobial Agents, Chemistry Select, 2022 (accepted)
4. G K Wijesinghea, T A Jayarathna , K A A Dilhari, C Gunasekara , N Fernando , **N Kottegoda**, L P Samaranayake & M M Weerasekera, Ayurvedic Herbal Extracts Suppress Candidal biofilms in vitro, Indian Journal of Traditional Knowledge Vol 21(3), July 2022, pp 499-504
5. Senuri Kumarage, Imalka Munaweera, **Nilwala Kottegoda**, Contemporary, Multidisciplinary Roles of Mesoporous Silica Nanohybrids/Nanocomposites, Chemistry Select, 2022, 7(21), <https://doi.org/10.1002/slct.202200574>
6. Senuri Kumarage, Chamalki Madhusa, Imalka Munaweera, **Nilwala Kottegoda**, Application of Metal/Metal Oxide Doped Electrospun Nanofiber Membranes in Sustainable Catalysis, Vidyodaya Journal of Science, 2022, 25(1), <https://doi.org/10.31357/vjs.v25i01.5922>.
7. **Nilwala Kottegoda**, Ladder of Scientific Research to Develop the Developing Nations (Editorial). Ceylon Journal of Science, 2022, 51(1), 1–2. DOI: <http://doi.org/10.4038/cjs.v51i1.7973>

8. Thilini Amarasekara, Imalka Munaweera, **Nilwala Kottegoda**, Review on mechanisms of phosphate solubilization in rock phosphate fertilizer, *Communications in Soil Science*, *Communications in Soil Science and Plant Analysis*, 2022, <https://doi.org/10.1080/00103624.2022.2034849>
9. S Kumara, I Munaweera, **N Kottegoda**, A comprehensive review on electrospun nanohybrid membranes for wastewater treatment, *Beilstein Journal of Nanotechnology*, 2022, 13(1), 137-159
10. TS Rasadari, H. M. I. K. Herath, H K Dedduwakemara, **N Kottegoda**, T Kuruwita-mudiyanse, Impact of Hydrogels on Early Growth of Maize in Sandy Regosols: Progress towards Improving Growth Performance by Enhancing Water and Nutrients Retention Capacity of the Soil, *Journal of Food and Agriculture*, 14(1) 2021, 36-48
11. KL Seneviratne, I Munaweera, SE Peiris, CN Peiris, **N Kottegoda**, Recent Progress in Visible-Light Active (VLA) TiO<sub>2</sub> Nano-Structures for Enhanced Photocatalytic Activity (PCA) and Antibacterial Properties: A Review, *Iranian Journal of Catalysis* 11 (3), 217-245.
12. Nimshi L. Fernando, Dhanusha T. N. Rathnayake, **Nilwala Kottegoda**, J. K. D. Sumedha Jayanetti, Veranja Karunaratne, Dilushan R. Jayasundara, Mechanistic Insights into Interactions at UreaHydroxyapatite Nanoparticle Interface, *Langmuir*, 2021, 1a-2021-00564x (10.1021/acs.langmuir.1c00566).
13. Niranjala Fernando, Jayashree Swaminathan, Francisco Carlos Robles Hernandez, Gayan Priyadarshana, Chanaka Sandaruwan, Wenli Yang, Veranja Karunaratne, Zixing Wang, Gehan AJ Amaratunga, **Nilwala Kottegoda**, Ashokkumar Meiyazhagan, Pulickel M Ajayan, Pseudobrookite based heterostructures for efficient electrocatalytic hydrogen evolution, *Materials Reports: Energy*, 2021, 100020, ISSN 2666-9358 <https://doi.org/10.1016/j.matre.2021.100020>
14. Reduced Crystalline Biofilm Formation on Superhydrophobic Silicone Urinary Catheter Materials  
Buddhika Gayani, Ayomi Dilhari, **Nilwala Kottegoda**, Dilru R. Ratnaweera, and Manjula Manoji Weerasekera, *ACS Omega* 2021 6 (17), 11488-11496, DOI: 10.1021/acsomega.1c00560
15. Latheesha Abeywardana, Madhavi de Silva, Chanaka Sandaruwan, Damayanthi Dahanayake, Gayan Priyadarshana, Surani Chathurika, Veranja Karunaratne, **Nilwala Kottegoda**, Zinc-Doped Hydroxyapatite–Urea Nanoseed Coating as an Efficient Macro–Micro Plant Nutrient Delivery Agent, *ACS Agricultural Science & Technology*, 2021, DOI: 10.1021/acsaagscitech.1c00033.
16. Chamalki Madhusa, Kumudu Rajapaksha, Imalka Munaweera, Madhavi de Silva, Chandani Perera, Gayan Wijesinghe, Manjula Weerasekera, Dinesh Attygalle, Chanaka Sandaruwan, **Nilwala Kottegoda**, A Novel Green Approach to Synthesize Curcuminoid-Layered Double Hydroxide Nanohybrids: Adroit Biomaterials for Future Antimicrobial Applications, *ACS Omega*, 2021, 2021 6 (14), 9600-9608 DOI: 10.1021/acsomega.1c00151
17. Chamalki Madhusa, Imalka Munaweera, **Nilwala Kottegoda**, Functional Nanomaterials as Smart Food Packaging: A Brief Review, *African British Journals*, 2021, 4(1), 58-78, ISSN: 2689-5331
18. Dinusha Senarathna, Manjula M Weerasekera, **Nilwala Kottegoda**, Dilru R Ratnaweera, Improving superhydrophobicity of polydimethylsiloxanes using embedding fluorinated polyhedral oligomeric silsesquioxanes cages, *SN Applied Science*, 2020, 2, 1944. <http://doi.org/10.1007/s42452-020-03721-y>
19. Samali Liyanaarachchi, Chayanika Padumadasa, Gayan Priyadarshana, Francisco Carlos Robles Hernandez, Ayomi Dilhari, Onur Sahin, Sandali Lakshika, Gayan Wijesinghe, Manjula Weerasekera, Veranja Karunaratne, Zixing Wang, Ashokkumar Meiyazhagan, **Nilwala Kottegoda**, and Pulickel M. Ajayan, Magnetite-Functionalized Plumbagin for Therapeutic Applications, *ACS Sustainable Chemistry & Engineering* 2021 9 (3), 1361-1372 DOI: 10.1021/acssuschemeng.0c08194
20. Chamalki Madhusa, Imalka Munaweera, Veranja Karunaratne, **Nilwala Kottegoda**, Facile Mechanochemical Approach To Synthesizing Edible Food Preservation Coatings Based On Alginate/Ascorbic Acid-Layered Double Hydroxide Bio-Nanohybrids, *ACS Journal of Agricultural and Food Chemistry*, July 2020, DOI: <https://doi.org/10.1021/acs.jafc.0c01879>

21. S. Raguraj, W.M.S. Wijayathunga, G.P. Gunaratne, R.K.A. Amali, Gayan Priyadarshana, Chanaka Sandaruwan, V. Karunaratne, L. S. K. Hettiarachchi, **Nilwala Kottegoda**, Urea- Hydroxyapatite Nanohybrid as an Efficient Nutrient Source in *Camellia sinensis* (L.) Kuntze (Tea), *Journal of Plant Nutrition*, 2020, 1-12, DOI: <https://doi.org/10.1080/01904167.2020.1771576>
22. Madhavi de Silva, Dumindu Siriwardene, Chanaka Sandaruwan, Gayan Priyadarshane, Veranja Karunaratne, **Nilwala Kottegoda**, Urea-silica nanohybrids with potential applications for slow and precise release of nitrogen, *Materials Letters*, 272, 2020, 127839, DOI: <https://doi.org/10.1016/j.matlet.2020.127839>
23. GMC Alwis, **N Kottegoda**, UN Ratnayake, Facile exfoliation method for improving interfacial compatibility in montmorillonite-natural rubber nanocomposites: A novel charge inversion approach, *Applied Clay Science*, 2020, 191, 105633 DOI: <https://doi.org/10.1016/j.clay.2020.105633>
24. Buddhini Nisanka, **Nilwala Kottegoda**, Dilushan Jayasundara, Probing Structural Variations of Graphene Oxide and Reduced Graphene Oxide Using Methylene Blue Adsorption Method, *Journal of Materials Science*, 2020, 1996-2005, DOI: <https://doi.org/10.1007/s10853-019-04087-2>
25. **Nilwala Kottegoda**, Guest Editorial, Winning Back the Nation through Chemistry, *Chemistry in Sri Lanka*, Jan 2019
26. **Nilwala Kottegoda**, Nanofertilizer: Seeds of Change in Fertilizer Innovations (invited Review Article), *Vidyodaya Journal of Sri Lanka*, April 2019
27. Wijesinghe G, Dilhari A, Gayani B, **Kottegoda N**, Samaranayake L, Weerasekera M. Influence of Laboratory Culture Media on In-vitro Growth, Adhesion and Biofilm Formation of *Pseudomonas aeruginosa* and *Staphylococcus aureus*. *Medical Principles and Practice*. 2018 Oct. DOI: <https://doi.org/10.1159/000494757>
28. Buddhika Gayani, Ayomi Dilhari, Gayan Wijesinghe, Sajeewani Kumaraage, Sammera Samarakoon, Inoka Perera, **Nilwala Kottegoda**, Manjula Weerasekera, Effect of Natural Curcuminoids Intercalated Layered Double Hydroxide Nanohybrid against *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Enterococcus faecalis*: A Bactericidal, Anti-biofilm and Mechanistic Study, *Microbiology Open*, Sep 2018, DOI: <https://doi.org/10.1002/mbo3.723>
29. Umeka Nayanathara, **Nilwala Kottegoda**, Inoka Perera, Thilini Kuruwita Mudiyanseelage, Synthesis, photodegradable and antibacterial properties of polystyrene-cinnamaldehyde copolymer film, *Polymer Degradation and Stability*, DOI: <https://doi.org/10.1016/j.polymdegradstab.2018.07.021>
30. Nimshi L. Fernando, **Nilwala Kottegoda**, Sumedha Jayanetti, Veranja Karunaratne, Dilushan R. Jayasundara, Stability of nano-hydroxyapatite thin coatings at liquid/solid interface, *Surface & Coatings Technology* 2018, 349, 24–31, DOI: <https://doi.org/10.1016/j.surfcoat.2018.05.042>
31. GK Wijesinghe, PDTA Jayarathna, TDCP Gunasekara, N Fernando, **N Kottegoda**, MM Weerasekera, Antibacterial and anti-candida activity of chlorhexidine gluconate, Triphala and Munamal pothu (bark of *Mimusops elengi*), *Sri Lankan Journal of Infectious Diseases* 2018, 8(1):25-31 DOI: <http://dx.doi.org/10.4038/sljid.v8i1.8166>
32. Ranuri Samavini, Chanaka Sandaruwan, Madhavi De Silva, Gayan Priyadarshana, **Nilwala Kottegoda**, Veranja Karunaratne, Effect of Citric Acid Surface Modification on Solubility of Hydroxyapatite Nanoparticles, *ACS Journal of Agriculture and Food Chemistry*, 2018, 66 (13), pp 3330–3337, DOI: <http://doi.org/10.1021/acs.jafc.7b05544>
33. Upendra Ratnayake, Tharindu Senapathi, Chanaka Sandaruwan, Sanja Gunawardene, Veranja Karunaratne, **Nilwala Kottegoda**, Rice Bran Nanofiber Composites for Stabilization of Phytase, *Chemistry Central Journal (BMS Chemistry- Current Title)*, 2018, 12:28, <https://doi.org/10.1186/s13065-018-0400-y>
34. S.K.T. Thathsara, P.L.A.T. Cooray, Thilini Kuruwita Mudiyanseelage, **Nilwala Kottegoda**, Dilru R. Ratnaweera, A novel Fe-La-Ce tri-metallic composite for the removal of fluoride ions from aqueous media, *Journal of Environmental Management*, 2018, 207, 387-395

35. Manjula M Weerasekera, Thilini A Jayarathna, Gayan K Wijesinghe, Chinthika P Gunasekara, Neluka Fernando, Nilwala Kottegoda, Lakshman P Samaranayake, The Effect of Nutritive and Non-Nutritive Sweeteners on the Growth, Adhesion, and Biofilm Formation of *Candida albicans* and *Candida tropicalis*, *Medical Principles and Practice*, 2017, DOI: <http://doi.org/10.1159/000484718>
36. Nadeesh Madusanka, Chanaka Sandaruwan, **Nilwala Kottegoda**, Dinaratne Sirisena, Imalka Munaweera, Ajith De Alwis, Veranja Karunaratne, Gehan A.J. Amaratunga, Urea-hydroxyapatite-montmorillonite nanohybrid composites as slow release nitrogen compositions, *Applied Clay Science*, 2017, 150, 303-308
37. Veromee Wimalasena, Helapumi Weeratunge, Veranja Karunaratne, Nilwala Kottegoda, Silica based Superhydrophobic Nano-coatings for Natural Rubber Surfaces, *Journal of Nanomaterials*, 2017(2017), DOI: <https://doi.org/10.1155/2017/2102467>
38. **Nilwala Kottegoda**, Chanaka Sandaruwan, Gayan Priyadarshana, Asitha Siriwardhana, Upendra A. Rathnayake, Danushka Madushanka Berugoda Arachchige, Asurusinghe R. Kumarasinghe, Damayanthi Dahanayake, Veranja Karunaratne, and Gehan A. J. Amaratunga, Urea-Hydroxyapatite Nanohybrids for Slow Release of Nitrogen, *ACS Nano* 2017, 11, 1214–1221. DOI: <https://doi.org/10.1021/acsnano.6b07781> - **Editors' Choice Article**

### Featured in

- First impression article in ACS Central Science; Slow Release Nanofertilizers for Bumper Crops, Manish Chowalla, *ACS Central Science* 2017 3 (3), 156-157, DOI: <https://doi.org/10.1021/acscentsci.7b00091>
  - “How to stop fertilizer being washed away by the rain”, **The Economist**, February 2017
  - “‘Slow-release’ fertilizer boosts crop yields, reduces environmental damage”, *science*, 3 Feb 2017
  - “Slow-release nitrogen fertilizer could increase crop yields - A new nanoparticle-based fertilizer delivers plant nutrients efficiently and reduces the harm of agricultural runoff”, **C and EN news**, 22 February 2017
  - “Nano Particle Fertilizer that Can Halve Fertilizer Use”, *Spot Chemi Blog*, Feb 2017
  - “Nanoparticle fertilizer could contribute to new 'green revolution'”, *Science Daily*, Jan 25 2017
  - “Nanoparticle fertilizer could contribute to new 'green revolution'”, *Phys Org*, 25 Jan 2017
  - “Slow-Release Fertilizer: Higher Crop Yield, Less Environmental Harm”, *Insights from BCC research*, 8 Jan 2017
  - “Nanoparticles That Help Crops Absorb Fertilizers” *Asian Scientist Magazine*: <https://www.asianscientist.com/2017/02/in-the-lab/hydroxyapatite-nanoparticle-fertilizer/>
  - “Fertilizers delayed response to benefit farmers, *Horizon Pacific* 2017
39. Buddhika Gayani, A D L Chandani Perera, Nilwala Kottegoda, Thermodynamic, Equilibrium and Kinetic Studies of Adsorption of Rhodamine B onto Activated Bamboo Carbon, *Desalination and Water Treatment*, 2017, 67, 271–283
  40. Eshani Hettiarachchi, Nilwala Kottegoda, A D L Chandani Perera, Activated Coir for Removal of Water Hardness, *Desalination and Water Treatment*, 2017, 66, 103–110.
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  42. Ajona Megalathan, Sajeewani Kumarage, Ayomi Dilhari, Siromi Samarasinghe, Manjula Weerasekera, **Nilwala Kottegoda**, Natural curcuminoids encapsulated in layered double hydroxides: a novel antimicrobial nanohybrid, *Chemistry Central Journal*, 2016, 10(36), DOI: <https://doi.org/10.1186/s13065-016-0179-7>
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nutrient nanocomposites based on urea coated hydroxyapatite: Efficacy and plant uptake, Indian Journal of Agricultural Sciences 2016, 86 (4)

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45. Gayan Priyadarshana, **Nilwala Kottegoda**, Atula Senaratne, Ajith de Alwis, and Veranja Karunaratne, Synthesis of Magnetite Nanoparticles by Top-Down Approach from a High Purity Ore, Journal of Nanomaterials, 2015, 2015 DOI: <http://dx.doi.org/10.1155/2015/317312>
46. **Nilwala Kottegoda**, Jayoda Perera, Manjula Weerasinghe, Slow Release Anti-Fungal Skin Formulations Based on Citric Acid Intercalated Layered Double Hydroxides Nanohybrids, Chemistry Central Journal, 2015,9,27, DOI: <https://doi.org/10.1186/s13065-015-0106-3>
47. **Nilwala Kottegoda**, Chanaka Sandaruwan, Piumi Perera and Veranja Karunaratne, Modified Layered Nanohybrid Structures for the Slow Release of Urea, Nanoscience & Nanotechnology-Asia, 2014, 4(2), 94-102 – Editor's choice article
48. Supun Samindra, and **Nilwala Kottegoda**, Encapsulation of Curcumin into Layered Double Hydroxides, Nanotechnology Review, 2014, 3(6).
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## ➤ INVITED TALKS

1. Key Note Speaker, Biotechnology Day, Wayamba University of Sri Lanka, Dec 2021
2. Invited Public Lecture, Post Graduate Faculty, University of Sri Jayewardenepura, Dec 2021
3. Chief Guest, Green Chemistry in 3 Min', Green Chemistry Research, India, 30<sup>th</sup> April 2021
4. Invited Speech, Sci Nexus 2021, Royal College Colombo, 29<sup>th</sup> Aug 2021
5. Chief Guest, Award Ceremony, Cambridge International College, April 2021
6. Invited Speech, Taxila Peramaga, "Chase Your Spark", Sep 2021
7. Invited Speech, University of Peradeniya "INSPIRE Talk Series" Oct 2021
8. Invited Speech, Fulbright Stories, Nov 2021
9. Theme Seminar Speaker, Sri Lanka Association for the Advancement of Science Annual Sessionas Theme Seminar, Dec 2021
10. Feature Discussion "How to become a scientist", Nalanda College Astronomical Society, Oct 2020
11. Key note speaker, National Conference on Multi-disciplinary Research 2020, National Institute of Fundamental Sciences, Sri Lanka, Oct 2020
12. Plenary speaker, Nanotechnology could revolutionize Sri Lankan Economy": Dream or Reality?, International Conference in Frontiers of Chemical Sciences 2020, Institute of Chemistry, Sri Lanka, 21st July 2020
13. Invited Speech, Chemical Technology For Value Addition To Local Resources, Sri Lanka Lab expo 2020, SLCC Colombo, 13-15 February 2020.
14. Resource person, Fulbright orientation programme, The United States Fulbright Commission, Nov 2019
15. Key note speaker, College of Chemical Sciences undergraduate Research Symposium 2019, Journey towards
16. Research Forum, Slow dance of molecules for higher crop yield, University of Houston, USA, April 2020
17. Key note speech, Smart agriculture for smarter economy, 13th Annual Research Forum (ARF) of Sri Lanka Agricultural Economics Association (SAEA), January 2020

18. Panelist, STEM Education in Sri Lanka, Panel discussion organized by Sri Lanka Association for Advancement of Science, University of Colombo, 13<sup>th</sup> Dec 2019
19. Graduation speech and Chief Guest, Sri Lanka Institute of Marketing graduation Ceremony 2019, Bandaranayake Memorial International Conference Hall, Colombo, Sri Lanka
20. Invited speech, Teaching and conducting research in Sri Lanka, Fulbright Commission of Sri Lanka, November 2019
21. Bernard Soysa Memorial Oration 2019, Sri Lanka Association for Advancement of Science, Slow Dance of Molecules for Improved Crop Yields, 13<sup>th</sup> Nov 2019
22. Fulbright Commission, Invited talk, Workshop for Fulbright students moving to Sri Lanka, Research In Sri Lanka, 15 Nov 2013
23. Key note speaker, Research Forum, Institute of Chemistry, Sri Lanka, Oct 2019
24. Chief Guest, Annual Prize Giving, Peoples Bank, Aug 2019
25. Impactful Research: Successful Stories, Young Scientists Forum, Gall Face Hotel, Colombo, Sri Lanka, Oct 2018
26. Nanomaterials in Agriculture, PGIS Research Congress, University of Peradeniya, 2017
27. Advent of Nanotechnology in Smart Fertilizer, 3<sup>rd</sup> International Symposium in Polymer Science and Technology, University of Sri Jayewardenepura, Sri Lanka, July 2017 – key note speech
28. Materials for Economic Development of Sri Lanka, Annual Research Sessions, Institute of Chemistry, June 2017 – key note speech
29. Urea Coated Hydroxyapatite Nanohybrid Fertilizer: Bench to Field, Science and Technology for Society Forum Sri Lanka, 7<sup>th</sup> – 10<sup>th</sup> Sep, Waters Edge, 2016 Sri Lanka
30. National Consultative Workshop on Strengthening and Road Mapping of Emerging Technology Innovation Systems of Sri Lanka, organized by the coordination office for science and technology, Taj Samudra Hotel, Nov 2015.
31. Nanocomposites: Future Directions, National Consultative Workshop on Strengthening and Road Mapping of Emerging Technology Innovation Systems of Sri Lanka , organized by the coordination office for science and technology, Taj Samudra Hotel, Nov 2015.
32. Enriching the well-being of Sri Lankans Using Nanotechnology, Presidential Address, Sri Lanka Association for Advancement of Science, University of Colombo, Dec 2014
33. Nanotechnology Applications in Nutraceuticals and Cosmeceuticals, Institute of Food Science Annual Sessions, Aug 2014 – key note address
34. Nanotechnology Introduction, Allions France annual Sessions, Foundation Institute, 2014
35. Nanotechnology Introduction, invited talk at Sri Lanka Medical Council Annual Sessions, BMICH, June, 2014
36. Thinking Big in a very very Small World, Invited talk at Annual Sessions of Sri Lanka Advancement of Science (SLAAS), University of Kelaniya, 6<sup>th</sup> Dec 2013.

37. Driving Research towards Economy, Opportunities and Challenges, Sri Lankan Academy of Young Scientist, National Science Foundation, 5<sup>th</sup> July 2013.
38. Introduction of Nanotechnology to School Curriculum, workshop organized by IDRC, Fingara County Club, 27<sup>th</sup> May 2013
39. New Trends in Nanotechnology, Sri Lanka Association of Advancement of Science and Bucky Ball Society of Open University, Open University, Nawala, 7<sup>th</sup> March 2013.
40. Nanotechnology Applications, Staff Awareness Programme, Open University, Nawala, Sri Lanka, 22<sup>nd</sup> May 2013.
41. Nanotechnology for National Development, National Academy of Sciences, Sri Lanka, Sri Lanka Foundation Institute, 5<sup>th</sup> April 2013.
42. Special invitee in the workshop for “Stimulating innovation and efficiency in fertilizer production and use” Government Science Office, UK, Sep. 2012.
43. Nanotechnology – Future Agriculture Sustainable Solutions?, Nano-ethics regional workshop organized by IDRC, Hotel Renuka, Sri Lanka, 12 – 13<sup>th</sup> Sep 2012
44. Nanotechnology towards a Green Future, International Symposium on Polymer Science and Technology, University of Sri Jayewardenepura, Nov 2012.
45. Nanotechnology and Agriculture, Crop Coordinators (Rice) Cum National Coordinated Rice Variety Testing Programme, Rice Research Institute, Bathalegoda, March 2012.
46. Nanotechnology for Agriculture, Global Forum of Scientist, Panelist, Hotel Galadari, Dec 2011.
47. Introduction to Nanotechnology, Workshop for Journalist, Light House Galley, Colombo 3, Mar. 2012.
48. Introduction and Applications of Nanotechnology, Workshop for A/L Students, Fingara Cricket Club, Nov 2011.
49. Introduction to Nanotechnology, Institute of Chemistry, Work shop on nanotechnology, Sep. 2011.
50. Nanotechnology Opportunities and Challenges in Sri Lankan Scenario, SLASS, University of Kelaniya, December 2009.
51. Nanotechnology Opportunities in Sri Lanka, National Nanotechnology Initiative Programme, National Science Foundation, June 2009.
52. Anionic Clays and Future of the Polymer Industry, Training Workshop on Exploring Opportunities in Nanoscience and Nanotechnology, NANOTECH, Hotel Topaz, June 2008.

## **COMPETENCIES**

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### **➤ COURSES TAUGHT**

Structure and properties of matter, Diffraction techniques, Molecular spectroscopy, Nanochemistry, Solid state chemistry, advanced engineering materials, Advanced characterization techniques, physical chemistry laboratory, Research methodology, Advanced thermodynamics

➤ **KEY TECHNICAL SKILLS**

Hands on experience on using and subsequent data analysis on High Resolution Electron Microscopy (SEM and TEM), X-ray Crystallography, IR/Raman Spectroscopy, Thermal Analysis (TGA, DSC), Solid State NMR, Light Scattering, Polymer Characterization Techniques.

➤ **INSTRUMENTAL TRAININGS**

- Scanning electron microscopy Hitachi 6600, Hitach High Tec Laboratories, Mito, Japan, June 2009
- Atomic Force Microscopy XE 100, Park Systems, Suwon, South Korea, November 2009
- Powder X-ray Diffraction Bruker D8 Focus, Delhi, India, June 2010

➤ **ON GOING RESEARCH PROJECTS**

- Smart food coatings and packagings
- Nanomembranes and materials for water purification
- Extraction of Ti metal from natural mineral sand using economical pathways
- Green pathways to produce plant nutrients
- Slow Release plant nutrient nanocomposites
- Soluble phosphate fertilizer from Eppawala Apatite
- Slow release 2<sup>nd</sup> Generation foliar plant nutrients based on nanotechnology
- Nano natraceuticals and cosmeceuticals based on natural materials
- Development of plant nano micronutrients
- Value added nano-dietary fibers from agro-waste using electro-spinning techniques
- Water purification using low cost nanomaterials
- Layered material / clay rubber nanocomposites
- Synthesis of magnetic nanoparticles from natural magnetite ore

➤ **POST GRADUATE RESEARCH STUDENTS SUPERVISED**

- Chamalki Madusha, MPhil, University of Sri Jayewardenepura, 2022, on going
- Piyumi Kanchana, MPhil, University of Sri Jayewardenepura, 2022, On going
- Sehan Jayasinghe, MPhil, University of Sri Jayewardenepura, 2022 On going
- Senuri Kumara, MPhil, University of Sri Jayewardenepura. 2022, On going
- Sanjeewa Lalith, PhD, SLINTEC Academy 2018 On going
- Hiruni Dedduwakumara, MPhil, University of Sri Jayewardenepura, 2022 completed
- Latheesha Abeywardene, MPhil, SLINTEC Academy, 2022 completed
- Samali Udara, MPhil, SLINTEC Academy, 2022 completed

- Madavi de Silva, PhD, University of Sri Jayewardenepura, 2015 – On going
- Nimshi Perera, PhD, University of Colombo, 2022 completed
- Buddhika Gayani 2020 MPhil, University of Sri Jayewardenepura completed
- Devaki Rodrigo, MSc, University of Sri Jayewardenepura, 2019 Completed
- Susith Pathmasiri, MSc, University of Peradeniya, 2018 Completed
- Lakshitha Madunil, MSc, 2018, University of Colombo completed
- Gayan Priyadarshane, PhD, University of Peradeniya, 2019 completed
- Upendra Amal, MSc, University of Moratuwa, 2016 completed
- Thiloka Disanayake, MSc, University of Peradeniya, 2013 completed
- Chathurika Rathnayake, MSc, University of Peradeniya, 2015 Completed
- D Kettapearachchi, MSc, University of Peradeniya, 2015 Completed
- Malindu Alwis, PhD. University of Sri Jayewardenepura, Sri Lanka, 2017 completed
- Imalka Munaweera, M. Phil. University of Moratuwa, Sri Lanka, 2010 completed.
- Nadeesh Madusanka, M. Phil. University of Moratuwa, Sri Lanka, 2010 completed.
- Chrishanthi Salgadu, M.Sc. in Science Education, University of Peradeniya, Sri Lanka, 2010 completed.
- Ravindra N. Alles, M.Sc. in Polymer Science and Technology, University of Sri Jayewardenepura, Sri Lanka, 2009 completed.

## ➤ **RESEARCH GRANTS**

1. Source: The World Academy of Sciences  
 Title: Functional Alginate-TiO<sub>2</sub>-Graphene Oxide Nanohybrids to Minimize the Post-harvest Loss of Fruits and Vegetables.  
 Period: 2019-2021  
 Role: Principal Investigator  
 Funding: \$39000
2. Source: Anunine Holdings Pvt Ltd/ National Research Council of Sri Lanka  
 Title: Activated carbon from coconut coir  
 Period: 2019-2022  
 Role: Principal Investigator  
 Funding: LKR 43 M
3. Source: University of Sri Jayewardenepura  
 Title: Plasma based functionalized activated carbon nanostructures for toxic gas adsorption  
 Period: 2021-2022  
 Role: Principal Investigator  
 Funding: LKR 4 M
4. Source: National Science Foundation  
 Title: Purchase of a Powder X-ray Diffract meter  
 Period: 2016  
 Funding: LKR 6.45 Million

5. Source: National Research Council (NRC Grant 11- 49)  
Title: Rubber nanocomposites: Effects of hybrid nanomaterial systems on mechanical and flame retardant properties  
Role: Principal Investigator  
Period: 2012 - 2015  
Funding: LKR 2.9 Million
6. Source: University of Sri Jayewardenepura  
Title: Next generation nanofoliar fertilizer  
Role: Principal Investigator  
Period: 2015-2020  
Funding: LKR 2.8 Million
7. Source: National Research Council (NRC Grant 15-04)  
Title: Kinetic study of hydroxyapatite-organic hybrid system using Quarts Crystal Microbalance (QCM)  
Role: Co-Investigator  
Period: 2015 - 2017  
Funding: LKR 4.98 Million

## **PROFESSIONAL ACTIVITIES**

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### **➤ POSITIONS/ ADMINISTRATIVE DUTIES**

- Core Committee Member Education Reforms 2021-
- Editor-in-Chief, Vidyodaya Journal of Science, 2021-
- The Advisor (Scientific Affairs) to His Excellency the President of Sri Lanka (2020-2022)
- Presidents representative in the board of governors of Sri Lanka Institute of Nanotechnology (2020 – )
- Board member of Governing Board of National Institute of Fundamental Science (NIFS), Sri Lanka, 2019-
- Member, Standing committee for Nano fertilizer evaluation, Sri Lanka Standard Institute, Oct 2021
- Member of the Fertilizer Standing Committee (April 2021)
- Member Organic Fertilizer Recommendation Committee (2021)
- Member Committee for establishment of a national laboratory for organic fertilizer testing (2021)
- Member of Technical Committee for Organic Soil Amendments, Sri Lanka Standard Institute (2021)
- Member of Technical Committee for Organic Fertilizer Recommendation (2021)
- University research council representative 2015 - 2017
- Director, Advanced Materials Research Center, University of Sri Jayewardenepura 2015 - 2016
- Event coordinator International Symposium on Polymer Science and Technology 2015
- Senior Treasurer Sri Lanka Association of Advancement of Science 2015-2016
- Member Board of Trustees, Sri Lanka Association of Advancement of Science 2015
- Member House and Finance Committee, Sri Lanka Association of Advancement of Science 2015
- President Section Chemical Sciences (E2), Sri Lanka Association of Advancement of Science 2014

- Member National Mirror Committee for Nanotechnology Standards, SLSI 2011 - 2012
- Member National Technical Committee for Good Laboratory Practice (GLP) standards, Sri Lanka, (GLP) standards, Sri Lanka Accreditation Board 2011 - 2012
- President elect Sri Lanka Association of Advancement of Science, Section E2 2013

#### ➤ MEMBERSHIPS

- Fellow of Royal Society of Chemistry
- Fellow of Cambridge Common Wealth Trust
- Fellow of Cambridge Philosophical Society
- Member of American Chemical Society

#### ➤ OTHER ACTIVITIES

- Member Expert Committee on “Establishment of a National Equipment Laboratory”
- Chief examiner for A/L Examination Evaluation Panels
- Resource person – A/L Syllabus Designing Committee
- Chief Editor – Government School Science Text Books (Grade 6-11)
- Reviewer National Science Foundation grants 2012
- Reviewer Journal of National Science Foundation 2011-
- Training workshops for school teachers and students
- Committee member – National science mobile exhibition center

### NATIONAL CONTRIBUTIONS

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#### ➤ CONTRIBUTION TO THE NATIONAL EDUCATION

- Chief Editor of the School Science Text Books (Grade 6-11)
- Fabricated a Teachers Toolbox for teaching Nanotechnology, National Science Foundation
- Resource person - GCE A/L Chemistry Syllabus
- Conducted provincial level workshops for A/L teachers to introduce nanotechnology section into the syllabus.
  - (i) National Education Institute, Maharagama,
  - (ii) Uva Province, Badulla, 30<sup>th</sup> Sep 2010
  - (iii) Southern Province, Rahula College, Matara, 30<sup>th</sup> Sep 2010
  - (iv) Wayamba Province, Maliyadeva Adarsha College, Kurunegala, 4<sup>th</sup> Oct 2010
  - (v) Western Province, National Education Institute, 11<sup>th</sup> Oct 2010
  - (vi) Sabaragamuwa Province, Ratnepura, 11<sup>th</sup> Nov. 2010
- Development of the section on Nanotechnology for A/L Technology stream curriculum
- Resource person for invited talks at school level programmes (Conducted seminars at over 40 schools) in all over the country

## ➤ OTHER PROFESSIONAL CONTRIBUTIONS

1. Chief Guest, Science Day celebrations, Visakha Vidyalaya, Colombo, Feb 2019
2. Chief Guest, Science Day celebrations, Princess of Wales, Moratuwa, Feb 2019
3. Chief Guest, Science Day, Vidyaratne University College, Horana, Nov 2018
4. Sri Jayewardena Maha Vidyalaya, Annual Science Day, Chief Guest, Sep 2016
5. Annual Prize Giving, Chief Guest, Amal International School, Colombo 7, June 2016
6. Inventors day, Zahira College, Colombo 10, May 2016
7. Nanotechnology, Muslim Ladies College, Wellawaththa, Nov 2015
8. Two day Science Camp, Bandarawela Central College, May 2015
9. Inspiring Future Scientist, School Programme for students in Kegalle District, Swarnajothi Vidyalaya, Kegalle, Jan 2014
10. Nanotechnology one day workshop for Technology stream teachers, Teacher Training College, Maharagama, Sep 2014
11. Nanotechnology for 21st century, St Anthonies College, Panadura, July 2014
12. Nanotechnology workshop for Commerce Stream Teachers, Teacher Training Center, Meepe, May 2014
13. Nanotechnology Teacher Training Workshop, Central Province, May 2014
14. Workshop for students selected for National Olympiad Competition, NERD Centre, Feb 2014
15. Nanotechnology Teacher Training Workshop, Nuwara Eliya District, Feb 2014
16. Chief Guest, Science Day Celebrations, St Joseph's College, Maradana, July 2013
17. Workshop on "Nanotechnology for A/L Science Students, Gonagala Maha Viyalaya, Galle, Feb. 2013
18. Workshop on "Nanotechnology for A/L Science Students, Ladies College, Colombo, Feb. 2013
19. Workshop on "Nanotechnology for A/L Science Students, Seethawaka Central College – Awissawella, Jan 2013
20. Chief Guest, Science Day Celebrations, D. S. Senanayake Vidyalaya, Beruwala, Nov. 2012
21. Chief Guest, Science Day Celebrations, Visaka Balika Vidyalaya, Sapugaskanda, Oct. 2012
22. Workshop on "Nanotechnology for A/L Science Students, St. Josephs College, Nugegoda, Sep. 2012
23. Workshop on "Nanotechnology for A/L Science Teachers, St. Sebastian College, Vennappuwa, July 2012
24. Chief Guest, Science Exhibition, Kalawana Central College Sep. 2011
25. Chief Guest, Science Day Celebrations, Colombo South International College Sep. 2011
26. Workshop on "Nanotechnology for Science Teachers, Piliyandala Div. Sep. 2011
27. Workshop on "Nanotechnology for A/L Science Students, St Benadics College Sep. 2011
28. Workshop on "Nanotechnology for A/L Science Students, Seethavaka Divisional Teachers Workshop, May 2012
29. Chief Guest Science Day Celebrations, Lalith Athulathmudali College, Moratuwa, July 2011
30. Chief Guest Science Day Celebrations, Presbyterian College – Dehiwala 2011
31. Chief Guest Science Day Celebrations, Methodist College, Colombo, April 2011



32. Workshop on "Nanotechnology for A/L Science Students, Vidyaratne College, Horana, March 2011
33. Workshop on "Nanotechnology for A/L Science Students, D.S. Senanayake College, Colombo, 28<sup>th</sup> Feb. 2011
34. Workshop on "Nanotechnology for A/L Science Students, Meseaus Vidyalaya, Colombo, Feb. 2011
35. Workshop on "Nanotechnology for A/L Science Students, Matara Rahula Vidyalaya, Feb. 2011
36. Workshop on "Teaching nanotechnology" Colombo Zone science teachers, Royal College, Colombo, Sep. 2010
37. Chief Guest, Science Day Celebrations, Vidyaloka Vidyalaya, Galle, Oct. 2010
38. Chief Guest, Science Day Celebrations, Good Shepherd Convent, June 2010
39. Workshop on "Nanotechnology for A/L Science Students, Fergusan High School, Rathnapura, Feb. 2011
40. Workshop on "Nanotechnology for A/L Science Students, Devi Balika Vidyalaya, Colombo Dec 2010
41. Chief Guest, Science Day Celebrations, Secret Heart Convent, Galle, Nov. 2010
42. Chief Guest, Science Day Celebrations, Science College, Mt Lavinia, Nov. 2010
43. Chief Guest, Science Day Celebrations, Ananda College, Colombo 7, Nov.2010

## REFREES

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### 1. Professor Pulikel Ajayan

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### 2. Professor Gehan Amaratunga

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