

EUROPEAN CURRICULUM VITAE FORMAT



Personal information

Surname / First name

WETHTHIMUNI MADUKA LANKANI

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Nationality

SRI LANKAN

Date of birth

08/12/1981

Gender

FEMALE

Work experience

Dates

FROM 2010

Occupation or position held

Research Doctorates in Chemistry

Main activities and responsibilities

Doing full time Research

Research work is mainly based on protective treatments on wood

- characterization of the properties of Shellac (natural polymer) and investigation of its behaviour as a protective coating for wood
- preparing Shellac composites by adding inorganic nanoparticles in order to improve the properties of Shellac varnish (SiO₂, MMT, ZnO, ZrO₂ and predispersed ZnO in ethanol)
- preparing shellac and modified shellac films
- treating Maple wood specimens by shellac and modified shellac after getting practical experience from one of the main musical instrument making school (Civica Scuola di Liuteria) in Milan in Italy
- characterization of films and treated wood specimens by optical microscope, X-ray diffractometry (XRD), FT-IR (ATR and micro-FT-IR), scanning electron microscopy (SEM) and energy-dispersive X-ray spectroscopy (SEM-EDX), differential scanning calorimetry (DSC), and thermogravimetric analysis (TGA)
- investigating the properties of modified shellac varnish with respect to the native shellac varnish for protection of wooden musical instruments by handling different experiments: measuring solubility and alkali resistance, chemical resistance, chromatic variations, gloss variations, contact angles, moisture absorption, ageing resistance (oven, solar and UV), decay resistance (bacteria and fungi), thermal resistance and mechanical properties (hardness and adhesion)
- investigating the problems of musical instruments varnished by shellac in real cases (Civica Scuola di Liuteria, in Milan in Italy)
- achieving to solve problems in real cases by laboratory investigations

improving the UV and decay resistance as well as hydrophobic properties in wood through the hydrothermal growth of highly ordered ZnO nanorods

conservation of stone by hydroxyapatite using biomimic method (the reaction of synthesized $\text{Ca}(\text{OH})_2$ nanoparticles and di ammonium hydrogen phosphate)

synthesis, characterization, and investigation the performance of inorganic nanoparticles($\text{Ca}(\text{OH})_2$, $\text{Sr}(\text{OH})_2$ and SiO_2) for conservation of stone

Name and address of employer	University of Pavia Corso Strada Nuova, 65 Pavia
Type of business or sector	Education
Dates	FROM- 01/07/2008 TO- 31/11/2010
Occupation or position held	Teaching Assistant
Main activities and responsibilities	Lecturing, preparing and teaching laboratories, evaluating lab reports and conducting practical examinations
Name and address of employer	Institute of Chemistry, Ceylon 341/22, Kotte Road, Welikada, Rajagiriya, Sri Lanka
Type of business or sector	Education
Dates	FROM- 05/05/2007 TO- 15/06/2008
Occupation or position held	Teaching Assistant
Main activities and responsibilities	preparing and teaching laboratories, evaluating lab reports and conducting practical examinations
Name and address of employer	University of Sri Jayewardenepura Nugegoda, Sri Lanka
Type of business or sector	Education

Education and training

Dates	05/05/2007
Title of qualification awarded	BACHELOR OF SCIENCE (CHEMISTRY) SPECIAL DEGREE (FOUR YEARS DEGREE)
Principal subjects/Occupational skills covered	CHEMISTRY, MATHEMATICS, STATISTICS
Name and type of organisation providing education and training	FACULTY OF APPLIED SCIENCES, UNIVERSITY OF SRI JAYEWARDENEPURA , SRI LANKA

Personal skills and competences

Mother tongue **SINHALA**

Other language(s)
ENGLISH - FLUENT WRITTEN AND SPOKEN
ITALIAN - FAIR WRITTEN AND SPOKEN

Technical skills and competences

Excellent knowledge of synthesizing nanoparticles and characterizing them using dynamic light scattering (DLS), transmission electron microscopy (TEM), X-ray diffractometry (XRD), FT-IR (ATR and micro-FT-IR), micro Raman, scanning electron microscopy (SEM) and energy-dispersive X-ray spectroscopy (SEM-EDX) for protection and conservation purposes of wood and stone substrate
Excellent knowledge for handling laboratory instruments: Optical microscope, UV-Vis spectrophotometer, FT-IR (ATR and micro FT-IR), X-ray diffractometry (XRD), and SEM-EDX
Excellent knowledge about advanced diffraction techniques for structural investigation in Material Science: XRD and neutron diffractometry
Excellent knowledge of computational chemistry: Gaussian and Chemscetch, hyperchem
Good knowledge for analyzing results of thermal analysis: differential scanning calorimetry (DSC), thermogravimetric analysis (TGA) for composites
Good knowledge for doing microbiology tests: antifungal and antibacterial
Excellent knowledge of Office packages (Word, Excel, Access), Internet Explorer and e-mail

Memberships

MEMBER OF INSTITUTE OF CHEMISTRY, CEYLON

Attachements

[Scientific publications]

I authorise the use of my personal data according to Legislative Decree N°196/03

Date: 25/07/2013

Weththimuni Maduka Lankani