Department of Chemistry
Faculty of Science / University of Peradeniya



Prof. D.Nedra Karunaratne

B.Sc. (Colombo), Ph.D. (UBC, Canada)

Emeritus Professor

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About Me

I obtained a PhD from the University of British Columbia, Vancouver, B.C. Canada in 1985, My expertise in research covers many areas of biochemical applications. Beginning from bacterial polysaccharides, to antimicrobial peptides and then to isolation of antioxidant, anticancer and anti microbial compounds from some plants has widened my biochemical outlook. Currently my attention is focused on Polymer nano particles, liposomes, micro and macro emulsion technology used to deliver drugs, nutraceuticals and other small molecules. In drug delivery, I mainly focus on anticancer drugs and mechanism of action and antibacterial drug delivery. I have studied several types of carriers for applications in topical delivery and gastric delivery and optimized conditions for enhanced bioavailability and penetrability. My research has won several Presidential awards for research publications and SUSRED awards for research supervision. Overall 13 research grants have been administered and 19 students have earned their postgraduate degrees.

Higher Education Qualifications

PhD

British Columbia
Canada
(1985)

BSc

University of Colombo
Sri Lanka
(1979)

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Awards, Scholarships, Memberships & Fellowships

- General Research Award (2017) from the SLAAS for lifetime contribution to research in Sri Lanka
- Fellow of the National Academy of Sciences
- Presidential award for research: 2002, 2012, 2013, merit award 2014
- SUSRED award from the National Science Foundation, Sri Lanka for supervision of a post graduate student- 2013, 2016
- CIDA/NSERC scholarship 1988-1989
- Life member, Institute of Chemistry, Ceylon
- Life member, Sri Lanka Association for the advancement of Science

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Positions Held

- Commission member. National Science and Technology Commission- (2016 to date)
- EDITOR IN CHIEF, University Research Magazine “Hantana Vision”- (2015- 2017)
- Deputy Director, Examinations, Centre For Distance And Continuing Education, University of Peradeniya.- (2007 - 2010)
- ECRETARY, Board of Study in Chemical Sciences, Post Graduate Institute of Science. Peradeniya, Sri Lanka- (2006 - 2013)
- COORDINATOR, M.Sc in Industrial Chemistry, Post Graduate Institute of Science. Peradeniya, Sri Lanka- (2006 - 2008)

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My Teachings

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Research Interests (Research Fields/ Projects)

My area of research is in drug delivery using nanomaterials capable of improving the effectiveness and safety of the drugs. My group has experimented on the use of liquid crystals as a novel carrier for efficient delivery. In addition, research in the area of natural products for the isolation of bioactive materials and anticancer drugs and characterization of coconut polysaccharides add to my other areas of interest.

Ongoing Research and Projects

Naturally occurring therapeutic agents as potential neutraceuticals

Looks into searching for anticancer drug leads and improving their biovailability. Potential anticancer drugs are chemically modified to enhance their activity. One such project is the “Synthesis of biologically active natural product libraries of 3?-[(?-L arabinopyranosyl)oxy]olean-12-en-28-oic acid”.

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Key Publications

Int J Pharmaceutics - (2016)

Alginate nanoparticles protect ferrous from oxidation: potential iron delivery system.

J Nanomaterials - (2016)

A novel chitosan-alginate nanoparticle system efficiently delivers doxorubicin to MCF-7 cells.

Conferences

Nothing to show under this subheading !!!

My Publications

Please goto the website.

https://sci.pdn.ac.lk/chemistry/staff/Nedra-Karunaratne

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