



Department of Chemistry
Faculty of Science / University of Peradeniya



Dr. R. J. K. Udayana Ranatunga

B.Sc. (Perad.), Ph. D (UT Dallas, USA)

Senior Lecturer

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About Me

Udayana Ranatunga is a computational chemist working in the fields of nanotechnology, surface science and biophysics. He is an Alumnus of the University of Peradeniya, and the University of Texas at Dallas.

Higher Education Qualifications



PhD

University of Texas at Dallas - USA
(2012)



MSc

University of Texas at Dallas - USA
(2009)



BSc

University of Peradeniya - Sri Lanka
(2006)

Awards, Scholarships, Memberships & Fellowships



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Positions Held







Senior Student Councillor- (2013 – 2015)



Director - Science-Industry Interaction Cell- (2019-present)








My Teachings

-  CH109: Elementary Chemistry Laboratory II
-  CH228: Organic Chemistry Laboratory
-  CH342: Computer Applications and Instrumentation
-  CH437: Modern Topics in Physical Chemistry

Research Interests (Research Fields/ Projects)

Research focus is mainly on the computational and theoretical study of 'soft' nanoparticles, particularly in relation to their physical behaviour and energetics.

Ongoing Research and Projects

-  **The study and modeling of dendrimers, and their drug loading capacity**
-  **The energetics and interactions of cyclodextrin inclusion complexes**
-  **Cell penetrating peptides and their interactions with cargo and cellular membranes**
(Collaboration with Prof. D. Nedra Karunaratne)
-  **Photodynamics and Energy levels of substituted furylfulgides**
(collaboration with Dr. Champika V. Hettiarachchi)
-  **Design of Telomere structure stabilizing peptide scaffold**
-  **Coarse-Grained Force-field development**
-  **Using Computer Assisted Teaching/learning for Chemistry Education**

Key Publications



A Molecular Docking Study J. Biophys. - (2017)

Trends in the Binding of Cell Penetrating Peptides to siRNA:



Soft Matter - (2011)

Molecular Dynamics Study of Nanoparticles and Non-Ionic Surfactant at an oil/water interface.

Conferences



Nothing to show under this subheading !!!

My Publications

Please goto the website.

<https://sci.pdn.ac.lk/chemistry/staff/Udayana-Ranatunga>