



**Department of Physics**  
**Faculty of Science / University of Peradeniya**



**Dr. Nilushi L. Dasanayake**

*B.Sc. (Perad.), Ph.D. (USA)*

**Senior Lecturer**

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**About Me**

I graduated from the University of Peradeniya in 2006 with a B.Sc. with honors in Physics. Upon graduation, I worked as a temporary demonstrator in the Physics department for a year.

In 2007, I entered the Washington University in St. Louis and obtained my PhD in physics in 2013, where I specialized in biophysics of cell mechanics. Investigated the effects of the network structure on intracellular force generation via simulation of myosin mini-filament motion through a random actin network and demonstrated the generality of actomyosin contractility for the first time.

My main research interests are in the field of computational biophysics.

**Higher Education Qualifications**



**PhD**

Washington University in St. Louis  
United States  
(2013)



**MSc**

Washington University in St. Louis  
United States  
(2009)



**BSc**

University of Peradeniya  
Sri Lanka  
(2006)

## Awards, Scholarships, Memberships & Fellowships



University Awards for Academic Excellence 2006



University Fellow Washington University in St. Louis 2007/2008



Member of the Biophysical Society 2009-2013

## Positions Held



Teaching Assistant - Washington University in St. Louis- (2009-2013)



Visiting Scholar - University of California Santa Barbara- (2014-2015)







Adjunct Assistant Professor - University of Portland- (2017-2020)



Coordinator in MSc in Medical Physics- (Since 2022)

## My Teachings

-  PH304: Relativity
-  PH313: Physical optics and Optical Instrumentation
-  PH414: Lasers
-  PH440: Solid State Physics

## Research Interests (Research Fields/ Projects)



Nothing to show under this subheading !!!

## Ongoing Research and Projects



Nothing to show under this subheading !!!

## Key Publications



Physical Biology - (2013)

Stress Generation by Myosin Mini-filaments in Actin Bundles.



Physical Review Letters - (2011)

General Mechanism of Actomyosin Contraction

## Conferences



**54th Annual Biophysical Society Meeting**

**HELD AT :** San Francisco, USA - (Feb, 2010)

**TOPIC :** *Stress generation by myosin minifilaments in isotropic actin networks*



**Frontiers in Mathematical Biology NSF-NIH PIs Meeting at University of Maryland, College Park, Maryland.**

**HELD AT :** Maryland, USA - (April, 2010)

**TOPIC :** *Control of Actin Assembly and Cell Migration by Actin-Regulating Proteins"*},



**Graduate Research Symposium, Washington University in St. Louis, St. Louis, Missouri.**

**HELD AT :** St. Louis, USA - (Feb, 2011)

**TOPIC :** *Stress generation by acto-myosin networks.*

## My Publications

Please goto the website.

<https://sci.pdn.ac.lk/physics/staff/Nilushi-Dasanayake>