



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



### Dr. Rachitha Mendis

*B.Sc. (KLN), Ph.D. (Kansas, USA)*

**Senior Lecturer**

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### About Me

I graduated from University of Kelaniya in 2012 with honors degree in Physics. In 2013, I joined the Department of Physics, University of Peradeniya as a Probationary Lecturer. In 2014 I went abroad for my PhD. I obtained my PhD from Kansas State University in 2019 and my PhD research project is "Search for vector-like T quarks using events with oppositely-charged lepton pairs and jets in proton-proton collisions at centre-of-mass energy of 13 TeV with CMS detector". Currently I'm working as a Senior Lecturer at the Department of Physics, University of Peradeniya.

### Higher Education Qualifications



**PhD**

Kansas State University  
USA  
(2019)



**BSc**

University of Kelaniya  
(2012)

## Awards, Scholarships, Memberships & Fellowships



Pheno Travel Award, 2018



Physical Science awards for Physics – 2012, SLAAS



Gold medal for academic excellence in Physics special degree, 2012

## Positions Held



Visiting Lecturer, South Eastern University of Sri Lanka- (Jan 2019 - Present)



Member - Career Enhancement and Guidance Committee (CEGC)- (2020 - Present)



Volunteer student counsellor- (2020 - Present)



Department Coordinator - Science Education Unit (SEU)- (2019 - Present)



Senior Lecturer Gr II, Department of Physics, University of Peradeniya- (May 2019 - Present)



Lecturer (Probationary), Department of Physics, University of Peradeniya- (March 2013 - May 2019)







Graduate Teaching Assistant, Department of Physics, Kansas State University- (2014-2015)



Graduate Research Assistant, Department of Physics, Kansas State University- (2015-2019)



## My Teachings

-  PH365: Modern Particle Physics
-  PH383: Advanced Physics Laboratory I
-  PH423: Electromagnetic Theory
-  PH433: Nuclear and Reactor Physics

## Research Interests (Research Fields/ Projects)

High Energy Physics - Specially related to vector-like-quarks (VLQ's) and beyond standard model (BSM)

## Ongoing Research and Projects

-  **Construction of an Ionization chamber to detect Alpha and Beta Particles**
-  **Construction of Galvanic cell using Biodegradable Materials**

## Key Publications



Regular Article - Experimental Physics Eur. Phys. J. C - (2019)

Search for vector-like quarks in events with two oppositely charged leptons and jets in proton–proton collisions at  $\sqrt{s}=13$  TeV

## Conferences



### APS April Meeting 2019

**HELD AT :** Denver, Colorado, USA - (April 13-16, 2019)

**TOPIC :** *Search for vector-like quarks in events with two oppositely charged leptons and jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV*



### 2017 Meeting of the APS Division of Particles and Fields (DPF 2017)

**HELD AT :** Fermilab, Batavia, IL, USA - (Jul 31 - Aug 4)

**TOPIC :** *Search for vector-like quarks with oppositely-charged dilepton pairs, jets, and missing transverse energy in proton-proton collisions at centre-of-mass energy of 13 TeV*



### Phenomenology 2018 Symposium (Pheno 2018)

**HELD AT :** University of Pittsburgh, PA, USA - (May 7-9, 2018)

**TOPIC :** *Searches for vector-like quarks at CMS*



### 2017 US LHC User Association Meeting

**HELD AT :** Fermilab, Batavia, IL, USA - (Nov 1 -3, 2017)

**TOPIC :** *Search for vector-like  $T$  quarks with oppositely-charged dilepton pairs and jets in proton-proton collisions at 13 TeV*

## My Publications

Please goto the website.

<https://sci.pdn.ac.lk/physics/staff/Rachitha-Mendis>