

SUSHIL ADHIKARI



📍 No. 101, Section 2, Kuang-Fu Rd, Hsinchu, R.O.C. @ adhikarisushil222@gmail.com
🌐 <https://sushiladk.github.io/> in [linkedin.com/in/SushilAdhikari](https://www.linkedin.com/in/SushilAdhikari)

☎ +886 919-493-946

PROJECTS

Quantum Optics in UltraCold Atom

Theoretical Study on Cross Phase Modulation in Double Rydberg EIT system with Dipole-Dipole Interaction

📅 2021 - 2022

📍 National Tsing Hua University

Supervisor: Prof. Ite A. Yu

- Using the combined effect of Electromagnetically induced transparency(EIT) and strong DDI interaction of Rydberg atom, theoretical study on cross phase modulation in Double Rydberg with slow light scheme is investigated.

Quantum Optics in UltraCold Atom

Theoretical Study of BEC in Rydberg polariton based on EIT

📅 2022 - 2023

📍 National Tsing Hua University

Supervisor: Prof. Ite A. Yu

- Rydberg polaritons being a 3D quasi-bosonic particle, we study its nature along with role and geometry of trapping potential for undergoing Bose-Einstein Condensation.

Computational Physics

Computational Study of Phase Space and Poincaré Section of Damped Driven Pendulum

📅 2018 - 2019

📍 Tri-Chandra Multiple Campus, Nepal

Supervisors: Prof. Devendra Raj Upadhyay & Dr. Shree Bhattarai

- As an undergraduate thesis work, simulation study investigating chaos in a Damped Driven Pendulum (DDP) through Python simulations, focusing on driving amplitude, Phase space, Poincaré section, and Lyapunov exponent.

EXPERIENCE

Columnist

SCIENTIFIC MIND

📅 May 2017 - August 2020

📍 Sankhamul, Nepal

- Writing and editing articles, science news and other content.
- Organizing various activities like science exhibition, talk show and workshop.

Secondary level Science Teacher

Gyan Sarobar English Boarding School

📅 Aug 2015 - May 2017

📍 Balaju, Nepal

- Managing the science classes for the secondary level student and supervising the science related events.

EDUCATION

M.S in Physics

National Tsing Hua University

📅 Feb 2021- July 2023 📍 Hsinchu, Taiwan

- Secured **3.87** in aggregate

Four year B.Sc. in Physics

Tri-Chandra Multiple Campus

📅 Oct 2015- Oct 2019 📍 Ghantaghar, Nepal

- Affiliated to Tribhuvan University
- Secured **78.7%** in aggregate

High School

Rehdon College & School

📅 2012- 2014

📍 Samakhushi, Nepal

- Secured **78.5%** in aggregate

SKILLS

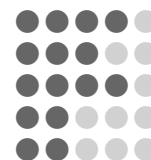
MATHEMATICA

Python

LaTeX

Qiskit

Bash



TOOLS & LIBRARIES

Anaconda Package Manager

ORIGIN

TensorFlow

Jupyter Lab

gnuplot

Ubuntu

Octave

Casino

INTEREST

Quantum Optics

Nonlinear Optics

Quantum Information & Communication

Computational Physics

LANGUAGES

Nepali

English

Hindi

Chinese



WORKSHOP AND CONFERENCE

Taiwanese German Young Researchers Forum on Quantum Information Science

National Cheng Kung University

📅 17 – 19 Feb 2023

📍 Tainan, Taiwan

Annual Meeting of the Physical Society of Taiwan 2023

National Cheng Kung University

📅 16 – 18 Jan 2023

📍 Tainan, Taiwan

Workshop on Quantum Science and Technology (QST)

National Taiwan University

📅 25 – 27 Aug 2022

📍 Taipei, Taiwan

- The workshop covered all related subjects in QST, and the invited speakers will include both theorists and experimentalists..

Workshop on Quantum Computing

Tribhuvan University

📅 8 – 9 Dec 2019

📍 Kathmandu, Nepal

- Introduction to Qubit and it's properties.

8th School on LHC Physics – 2019

National Centre for Physics

📅 19 Aug 2019 – 30 Aug 2019

📍 Islamabad, Pakistan

- High Luminosity LHC (HL-LHC) and analysis of present data.

ANPA Conference on Physical Science and Astronomy 2019

Association of Nepali Physicist in America

📅 19 - 21 July 2019

📍 Brooklyn, New York and Virtual Connection

ICTP & CERN Physics Without Frontier Winter School 2018

Kathmandu University

📅 19 - 21 Dec 2018

📍 Dhulikhel, Nepal

- High performance computation and particle physics.

Second Kathmandu Astrophysics School 2018

Prithivi Narayan Campus

📅 10 – 17 June 2018

📍 Pokhara, Nepal

- Computational technique on astrophysics and cosmology
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MEMBERSHIP

NTHU Physics & Astro Club

Foreign Student Association NTHU

Tri-Chandra Physics Club

SCIENTIFIC OUTREACH

Organizing Committee Member for National Science Exhibition 2018

Patan Multiple Campus

📅 18 - 19 Feb 2018

📍 Patan, Nepal

National Awareness Campaign against Cancer 2017

Tulsi Maya Memorial Cancer Relief Foundation

📅 4 Feb 2017

📍 Gothatar, Nepal

REFEREE

Prof. Ite A. Yu

@ yu@phys.nthu.edu.tw

☎ 886-3-5742539

🏠 Department of Physics, National Tsing Hua University, Hsinchu 300013, Taiwan R.O.C

Prof. Devendra Raj Upadhyay

@ devendra.upadhyay@ac.tu.edu.np

☎ +977-9848430578

🏠 Department of Physics, Amrit Science Campus, Tribhuvan University, Kathmandu 44600, Nepal.
