


Curriculum vitae

Dr. Diksha Chauhan

(Assistant Professor) College of Engineering, National Formosa University, No. 64, Wenhua Rd, Huwei Township, Yunlin County, 632, Taiwan	Email: dikshachauhan0008@gmail.com dikshachauhan@nfu.edu.tw	
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Research Area:

Integrated Photonics:

- Research expertise in plasmonics, nanophotonics, and optoelectronic devices.
- Rich experience in modeling and computer simulation, using COMSOL Multiphysics and MATLAB.
- Micro/nanophotonic devices for application in integrated photonics.
- Modeling and simulation of plasmonic modulators, plasmonic sensors, filters and switches
- Plasmonic biosensors for biomedical applications
- Metamaterials, absorbers

Education details:

Ph. D.: Electronics and Communication Engineering (2017-2021)

Shoolini University, Solan (H.P.) India.

Research Area: Integrated Micro/Nano Photonics.

Thesis Title: “Design and simulation of plasmonic devices for application in photonic and electronic integrated circuits”.

M. Tech.: Electronics and Communication Engineering (2015-2017)

School of Electrical and Computer Science Engineering, Shoolini University, Solan (H. P.) India.

Thesis Title: “Performance evaluation of MIMO-OFDM System by using Block type channel estimator with the help of M-ary modulation schemes”.

B.Tech.: Electronics and Communication Engineering (2012-2015)

School of Electrical and Computer Science Engineering,
Shoolini University, Solan (H.P.) India.

Diploma.: Electronics and Communication (2009-2012)

Govt. Polytechnic Rohru
Shimla (H.P.) India.

Professional Experience:

- Currently working as Assistant Professor in College of Engineering, National Formosa University, Taiwan from 1st August ,2023 to present.
- Worked as Assistant Professor in School of Core Engineering, Shoolini University, Solan (H.P.), India, from 10 September 2021 to 31st July 2023.
- Worked as Teaching Assistant in School of Mechanical, Civil, and Electrical Engineering Shoolini University, Solan (H.P.), India, from 21 September 2020 to 30 June 2021.

Publications: 19

1. Sbeah Z, Adhikari R, Sorathiya V, **Chauhan D**, Ponomarev R. S., Dwivedi RP, High-sensitive plasmonic multilayer SiO₂/VO₂ metamaterial sensor. *Applied Physics A Materials Science and Processing*, August 2023; 129:596 <https://doi.org/10.1007/s00339-023-06846-0>
2. Sbeah Z, Adhikari R, Sorathiya V, **Chauhan D**, Chang SH, Dwivedi RP, A Review on Metamaterial Sensors Based on Active Plasmonic Materials. *Plasmonics*, June 2023, ;1-20 <https://doi.org/10.1007/s11468-023-01904-y>
3. Sbeah Z, Adhikari R, Sorathiya V, **Chauhan D**, Rashid ANZ, Chang SH, Dwivedi RP, GST-based plasmonic biosensor for hemoglobin and urine detection. *Plasmonics*, October 2022, 17; 2391–2404 <https://doi.org/10.1007/s11468-022-01728-2>
4. Sbeah Z, Dwivedi RP, Sorathiya V, **Chauhan D**, Adhikari R, Phase change material-based biosensors in infrared frequency spectrum. *AIP conference proceedings*. 2022 September. <https://doi.org/10.1063/5.0110060>.
5. Sbeah Z, Dwivedi RP, Sorathiya V, **Chauhan D**, Adhikari R, Graphene assisted tunable narrowband metamaterial absorber for infrared wavelength. *AIP conference proceedings*. 2022 September. <https://doi.org/10.1063/5.0110056>
6. Adhikari R, Sbeah Z, **Chauhan D**, Jeong DY, Dwivedi RP, Enhanced coupling efficiency in MDM Waveguide ring structure for plasmonic temperature sensor and sucrose concentration detector. *Optik*, 2022 August, 264; 169425 <https://doi.org/10.1016/j.ijleo.2022.169425>
7. Adhikari R, Sbeah Z, Gupta R, **Chauhan D**, Nunzi JM, Dwivedi RP, Compact and sensitive H-shaped Metal-Dielectric-Metal Waveguide Plasmonic Sensor. *Plasmonics*. May 2022,17;1593-1606 <https://doi.org/10.1007/s11468-022-01646-3>
8. **Chauhan D**, Sbeah Z, Dwivedi RP, Nunzi JM, Thakur MS, An Investigation and Analysis of Plasmonic Modulators: A Review. *Journal of optical communications*. <https://doi.org/10.1515/joc-2021-0264>
9. Adhikari R, Sbeah Z, **Chauhan D**, Chang SH, Dwivedi RP. A Voyage from Plasmonic to Hybrid Waveguide Refractive Index Sensors based on Wavelength Interrogation Technique: A Review. *Brazilian Journal of Physics*. 2022 Feb 23; 52,61 <https://doi.org/10.1007/s13538-022-01064-0>.
10. **Chauhan D**, Sbeah Z, Adhikari R, Thakur MS, Chang SH, Dwivedi RP. Theoretical analysis of VO₂ Filled Double Rectangular Cavity-Based Coupled Resonators for Plasmonic Active Switch/Modulator and Band Pass Filter Applications. *Optical materials*. 2022 March;165,1-11. <https://doi.org/10.1016/j.optmat.2022.112078>

11. Adhikari R, **Chauhan D**, Mola GT, Dwivedi RP. A review of the current state-of-the-art in Fano resonance-based plasmonic metal-insulator-metal waveguides for sensing applications. *Opto-Electronics Review*. 2021 December; 29, 148-166. <https://doi.org/10.24425/opelre.2021.139601> .
12. **Chauhan D**, Kumar A, Adhikari R, Saini RK, Chang SH, Dwivedi RP. High performance vanadium dioxide based active nano plasmonic filter and switch. *Optik*. 2021 Jan 1; 225:165672. <https://doi.org/10.1016/j.ijleo.2020.165672> .
13. **Chauhan D**, Adhikari R, Saini RK, Chang SH, Dwivedi RP. Subwavelength plasmonic liquid sensor using Fano resonance in a ring resonator structure. *Optik*. 2020 Dec 1; 223:165545. <https://doi.org/10.1016/j.ijleo.2020.165545> .
14. **Chauhan D**, Mola GT, Dwivedi RP. An ultra-compact plasmonic Modulator/Switch using VO₂ and elasto-optic effect. *Optik*. 2020 Jan 1; 201:163531. <https://doi.org/10.1016/j.ijleo.2019.163531> .
15. Vaidya T, **Chauhan D**, Mola GT, Dwivedi RP. An ultra-compact plasmonic modulator using elasto-optic effect and resonance phenomena. *Journal of Optical Communications*. 2020 Mar 7. <https://doi.org/10.1515/joc-2019-0243> .
16. Vaidya T, **Chauhan D**, Lee HI, Lee C, Dwivedi RP. An ultra-compact optical modulator using indium tin oxide material and metal-dielectric-metal waveguide structure. *IJEAT*. 2019; 8:463-6.
17. **Chauhan D**, Jara AD, Lee C, Dwivedi RP. An ultra-compact electrically controlled micro ring resonator for the application as tunable filter. *Advanced science, engineering and medicine*. 2019 Jun 1;11(6):475-83. <https://doi.org/10.1166/aseem.2019.2393>
18. Kumar A, Verma A, Saini RK, Singh I, **Chauhan D**. Performance comparison of dispersion compensation using EDC at distinct data rates with distinct photo-detectors. at receiver. *Materials today: Proceedings*. 2021 November 1. <https://doi.org/10.1016/j.matpr.2021.10.245> .
19. Saini RK, Saini DK, Gupta R, Verma P, Dwivedi RP, Kumar A, **Chauhan D**, Kumar S, Effects of dust particles on the performance of solar panels – a review update from 2015–2020. *Energy & environment*.2022 June 14; 34:6. <https://doi.org/10.1177/0958305X221105267> .

Conferences: International: 03

1. **Chauhan D**, Dwivedi RP. Low loss plasmonic filter, switch and its design characteristics. International Conference on Recent Advances in Science, Engineering and Technology (ICRASET), held in Nagercoil, India on 08 January, 2021.
2. **Chauhan D**, Dwivedi RP. Resonant plasmonic MDM switch and modulator using gap structure and bismuth ferrite as an active material in mid-infrared range. 6th International Conference on Recent Trends and Advancements in Engineering and Technology (ICRTAET), held at Shri Mata Vaishno Devi University, Katra, J & K, India. January 17th-18th, 2020.
3. **Chauhan D**, Dwivedi RP, Saini RK. Design and simulation of ultra-compact plasmonic subwavelength Mach-Zehnder Interferometer. 2nd International Conference on Advancement in Engineering, Applied Science and Management (ICAEASM 2018), Indian Council of Social Science Research, North West Regional Centre, Punjab University Campus, Chandigarh, India, 15th April 2018

Reviewer:

- Reviewer in IEEE Transaction on Wireless Communications

Personal Profile:

Name	Diksha Chauhan
Father's Name	Mr. Pawan Kumar
Mothers Name	Mrs. Sita Devi
Date of Birth	08/05/1994
Permanent Address	DPF Kateri (46) Rohru, Distt. Shimla (H.P.), PIN: 171224, India.
Languages Known	Hindi, English
Nationality	Indian