

Profile

Name of the Faculty	Dr. P. Sakuntala	
Designation	Associate Professor	
Department	Freshman Engineering	
Area of Interest	Applied Spectroscopy/Material science	
Subjects Taught	Applied Physics, Semiconductor Devices (Theory & Lab) Solid State Physics & Engineering Physics (Lab)	
JNTUH Registration Id	7735-221130-095807	
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Educational Qualifications:

S. No.	Degree	Specialization	University/College	Year
1	Ph.D.	Applied Spectroscopy	Annamalai University	2021
2	M.Phil.	Applied Spectroscopy	Annamalai University	2008
3	M.Sc.	Industrial Electronics	Nagarjuna University	1996

Research Publications:

S. No.	Publication details
1	"Investigations on structural and ferroelectric characteristics of Ba(1-x)Ca(x)TiO ₃ Ceramics (x=0.1-0.5) for high frequency applications", ECS Journal of Solid State Science and Technology; 2025, [DOI: 10.1149/2162-8777/ade564].
2	Patent: "Scalable Neuropathic Computing Exploring Semiconductor Compatible Materials for High Density Synapse Integration", 18/2025 Dated 02/05/2025 41629; with Application number:202541032743 A.
3	"Analysis of minerals and phytochemicals in the leaves of Ocimum Kilimandcharicum plant using spectroscopic methods and screening of antibacterial activity", Natural Product Research, 2024,- https://doi.org/10.1080/14786419.2024.2432607 .
4	"Analysis of minerals and phytochemicals in the stems and seeds of Ocimum Kilimandcharicum plant using spectroscopic methods and screening of antibacterial activity", Chemical Papers, 78(14), 2024, 7927–7931. https://doi.org/10.1007/s11696-024-03644-7
5	"Estimation of essential trace elements in the leaves of some <i>ocimum</i> and <i>moringa</i> species plants using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES) method", <i>Materials Today: Proceedings</i> , 92(2), 2023, 1129-1132.
6	"GC-MS and FTIR analysis of chemical compounds in <i>ocimum gratissimum</i> plant", 66(3), 401–408, <i>Biophysics</i> , 2021, 0006-3509.
7	"Comparative analysis of chemical compounds and trace elements in the leaves of few <i>ocimum</i> species plants by using different spectroscopic methods", 31(2), 65–78, <i>ROMANIAN J. BIOPHYS.</i> , 2021, 1843-424X.
8	"Study on Different Parts of <i>Ocimum tenuiflorum</i> Plant using GC-MS, XRD and UV-Visible Methods",63(1), 90-94, <i>International Journal of Pharmaceutical Sciences Review and Research (IJPSRR)</i> , 2020, 0976-044X.
9	"FTIR and Energy Dispersive X-ray analysis of medicinal plants, <i>Ocimum gratissimum</i> and <i>Ocimum tenuiflorum</i> ", 7(3), 6-10, <i>International Journal of Scientific Research in Physics and Applied Sciences(IJSRPAS)</i> , 2019, 2348-3423.
10	"Elemental status of medicinal plant- <i>Moringa oleifera</i> ", 8(2), 491-495, <i>Journal of Applicable Chemistry (JOAC)</i> , 2019, 2278-1862.
11	"Vibrational and Morphological studies on few medicinal plants",8, 1(1),98-104, <i>International Journal of Multidisciplinary Educational Research (IJMER)</i> , 2019, 2277-7881.
12	"Extraction, estimation and analysis of chlorophyll from medicinal plants", 119-123, <i>International Journal of Research Culture Society (IJRCS)</i> , 2017, 2456-6683.
13	"FT-IR Spectroscopic Analysis of <i>Ocimum-Gratissimum</i> Leaves", 2347–3983, <i>International Journal of Emerging Technologies in Engineering Research (IJETER)</i> , 2017, 2347–398.

Books/Book Chapters Published:

S. No.	Publication details
1	“Characterization of Medicinal Plants using FTIR and SEM-EDX Techniques”, BP International, Book title: Current Research Progress in Physical Science, 2024, Vol:5, ISBN: 978-93-48388-34-6, eBook ISBN: 978-93-48388-55-1, DOI: https://doi.org/10.9734/bpi/crpps/v5/2894 .
2	“Characterization of Photosynthetic Pigments from Medicinal Plants”, Proceedings of the National Seminar on Innovations and Development in Macro, Micro and Nano Material Sciences, 2018, ISBN: 978-81-939248-3-9.
3	“Study on leaves of <i>ocimum</i> species plants using Fourier Transform Infrared, X-Ray Diffraction and Gas Chromatography-Mass Spectroscopy methods” International conference proceedings on Applied Sciences & Advances in Sustainable Development, 2021, ISBN: 978-93-90146-30-7.
4	“Use of Technology for the Identification of Minerals and Chemical Compounds in the Moringa Oleifera plant”, National seminar proceedings on Promoting Quality Research & Innovation in Higher Educational Institutions, 2022, ISBN: 978-93-93259-12-7.

Experience:

Teaching	26 Years
Industry	NIL
Research	20 years
Total Experience	26 Years