

Biodata



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- ❖ **Designation:** Assistant Professor of Nano Technology & Head of the Department, Centre for Nano Science and Technology, UCESTH, JNTUH
 - **Addition Duties:** Officer in-charge of Examination, UCESTH, JNTUH.
- ❖ **Name of the Department:** Centre for Nano science and Technology, UCESTH, JNTUH.
- ❖ **Academic Qualifications:** B. Tech (Biotechnology), M. Tech. (Nanotechnology), Ph.D. (Nano Science and Technology)
- ❖ **Professional Experience:**
 - **R & D Experience:** 13
 - **Teaching Experience :** 13
- ❖ **Patents: 03**
 - High performance supercapacitors from microporus carbon derived from gingelly oil waste, **Patent Granted**, Patent No: 501172, Application No: 202341027733A, Patentees: Shilpa Chakra Chidurala, Rakesh Kumar Thida, Shireesha Konda
 - Dextrose based solution combustion synthesis of Nio/ZnO/rGO Nanocomposite for supercapacitor applications, **Patent Published**, Application No: 202341021891A, Patentees: Shilpa Chakra Chidurala, Shireesha Konda, Rakesh Kumar Thida, Divya Velpula, Madhuri Sakaray, Sai Ram Eedulakanti.
 - A method for preparing copper nanoparticles using sericin and plant leaf extracts, **Patent Published**, Application No: 202341035303A, Sirisha Deepthi Sornapudi, Meena Srivastava, Shilpa Chakra Chidurala.
- ❖ **Research Projects : 12**
 - 1) Analysis of Structure-Property Relationship in Ultra-Wide Band Gap Semiconductor Ga₂O₃ for Functional Device Applications funded by **DST SERB Core Research Grant (CRG)** for an amount of Rs. 12.54 Lakhs. (2023-2026).
 - 2) Development of Green Hybrid Nano Generator for Energy Harvesting using Novel Nano Composite Material funded by **AICTE-RPS** for an amount of Rs.18.6 Lakhs. (2022-2025)
 - 3) Sophisticated Flexible Supercapacitor for High Energy Storage application based on Nanomaterials funded by **DST-SEED Young Scientist and Technologist (SYST)** for an amount of Rs.44.07 Lakhs. (2020-2023)
 - 4) Chemical and Electrochemical synthesis of metals, polymers, metal-polymer nanocomposites using liquid/liquid electrode (aqu)/electrolyte(org) interfaces their electrochemical applications funded by **DST-Woman Scientist Scheme (WOS-A)** Mentor to Dr. V. Divya for an amount of 34 Lakhs. (2021-2024)
 - 5) A new archetype for development of Flexible Nano Hybrid Supercapacitor for large scale electric energy storage with high performance funded by **DST SERB Core Research Grant (CRG)** for an amount of Rs.41.84 Lakhs. (2020-2023)

- 6) Novel green synthesis and characterization of nanoparticles and its study on seed germination, growth factors funded by **TEQIP-II** for an amount of Rs.2.0 Lakhs. (2015-16)
- 7) Synthesis and characterization of nanomaterials for energy storage applications funded by **TEQIP-II** for an amount of Rs.1.75 Lakhs. (2015-16)
- 8) Adsorption studies and removal of fluoride from aqueous solution using Nanocomposite materials, funded by **TEQIP-III** for an amount of Rs.2.0 Lakhs. (2018-19)
- 9) 3D printed Nanoparticle electrodes for high areal capacitance electrochemical storage funded by **TEQIP-III** for an amount of Rs.2.0 Lakhs. (2019-2020)
- 10) Printing of 3D parts/objects using nanocomposite materials with ultra-high properties funded by **TEQIP-III Twinning R&D Collaborative Project** with Dayalbag Educational Institute (DEI), Agra for an amount of Rs.2.0 Lakhs. (2020-2021)
- 11) Carbon nanospheres supported visible light driven ZnSb₂O₆: synthesis, characterization and photocatalytic dye degradation studies funded by Collaborative Research Scheme with Dayalbag Educational Institute (DEI), Agra, **TEQIP-III**, JNTUH. for an amount of 2.5 Lakhs. (2019-2020)
- 12) Eco-Friendly Flexible Transparent Conductive Cellulose Silver/MWCNT Nanopaper, Battery for Energy Storage Application funded by **AICTE MODROBS** for an amount of 10 Lakhs. (2019-2022)

❖ **Publications :**

- 1) Self-assembled copper oxide nanoflakes for highly sensitive electrochemical xanthine detection in fish-freshness biosensors, G. Sriramulu, , Rahul Verma, , Kshitij RB Singh, , Pooja Singh, , Ch. Shilpa Chakra, Sadhucharan Mallick, , Ravindra Pratap Singh, , K. Sadhana, , Jay Singh, Journal of Molecular Structure, 1304, Jan 2024, 137640
- 2) Structural and Electrochemical properties of Spinel structured Al doped nickel cobaltite nanoparticles Synthesized by Microwave hydrothermal method, Bangari Babu Koneti, Shilpa Chakra Chidurala, Sadhana Katlakunta, Rakesh Kumar Thida, Ravinder Reddy Butreddy, High Technology Letters, 30, Jan 2024, 145-164
- 3) Optimization of ternary composite @PANI/MoO₃/h-BN and its, electrochemical evaluation as an electrode material for supercapacitor application, Madhuri Sakaray , Shilpa Chakra Chidurala, Synthetic Metals 298 Aug 2023, 117448
- 4) Incorporation of photonic material BNNT into the PANI@MgO matrix to boost energy density for supercapacitor application Madhuri Sakaray , Shilpa Chakra Chidurala, Materials Today: Proceedings
- 5) Structural and electrochemical properties of Cu doped NiCo₂O₄ prepared by microwave hydrothermal method, Sathyanarayana Maheshwaram, Sriramulu Gaddameedi, Shilpa Chakra Chidurala, Sadhana Katlakunta, Venkata Narayana Mudutanapalli, Srinivasu Daripalli, Ravinder Reddy Butreddy, Materials Letters, 348, May 2023, 134650
- 6) Enhanced Structural and Electrochemical Properties of Zn Doped NiCo₂O₄ Synthesized by Low Temperature Microwave Hydrothermal Process, Sathyanarayana Maheshwaram, Sriramulu Gaddameedi, Shilpa Chakra Chidurala, Sadhana Katlakunta, Venkata Narayana Mudutanapalli, Srinivasu Daripalli, and Ravinder Reddy Butreddy, ECS Journal of Solid State Science and Technology, 12, Sep 2023, 093008.
- 7) Enhanced Structural and Electrochemical properties of spinel structured Ca doped nickel cobaltite nanoparticles synthesized by microwave hydrothermal method Sathyanarayana Neelam, Rakeshkumar Thida, Shilpa Chakra Chidurala, Srinivasu Daripaalli, Ravinder Reddy Butreddy, International Journal of Engineering Research and Applications, 13, May 2023, 29-41
- 8) Electrochemical Properties of Fe Doped NiCo₂O₄ Synthesised by Low-Temperature Microwave Hydrothermal Process, Satyanarayana Maheshwaram, Rakesh Kumar Thida, Shilpa Chakra Chidurala,

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 - 10) Development of MOF Based Recyclable Photocatalyst for the Removal of Different Organic Dye Pollutants, Narasimharao Kitchamsetti, Chidurala Shilpa Chakra, Ana Lucia Ferreira De Barros, Daewon Kim, Nanomaterials, 13, 2023, 336.
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 - 14) Comparative analysis of ZnO nanoparticle's specific capacitance in supercapacitors: The role of surfactant and stabilizing agent, Snehasree Reddy Yekkaluri , Shireesha Konda, Divya Velpula , Rakesh Kumar Thida ,Shilpa Chakra Chidurala, Bala Narsaiah Tumma, Navaneeth Reddy Nama, Rakesh Deshmukh, Applied Surface Science Advances, 12, 2022 100326
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- 96) PLZT Composite Synthesis To Study The Material Characterstic, S. Vinay Kumar, K. Venkateswara Rao, CH. Shilpa Chakra, IJIRSET, vol 2,issue 8, 2013.

- 97) Preparation And Characterization Of Magnetite Nanoparticles By Sol-Gel Method For Water Treatment, Sara Shaker, Shirzad Zafarian, CH. Shilpa Chakra, K. Venkateswara Rao, IJIRSET, vol 2, issue 7, 2013.
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- 99) Synthesis And Characterization Of Graphene Oxide And Its Antimicrobial Activity Against Klebsiella AND Staphylococcus, Satish Bykkam, Venkateswara Rao K, Shilpa Chakra CH. Tejaswi Thunugunta, International Journal of Advanced Biotechnology and Research, ISSN 0976-2612, Online ISSN 2278-599X, Vol 4, Issue 1, pp 1005-1009, 2013.
- 100) Synthesis and Characterization of MgFe₂O₄(0.5)/TiO₂(0.5) Nano Ceramic pigment by mechanochemical synthesis, T. Dayakar, K. Venkateswara Rao, Ch. Shilpa Chakra, International Journal of Nano Science and Technology, Vol. 1, No. 1, , PP: 01- 08, ISSN: 2328-5443, February 2013.
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- 102) Synthesis of Nanocrystalline Bismuth Ferrite by Solution Combustion Synthesis Method, V. Sesha Sai Kumar, K. Venkateswara Rao, Ch. Shilpa Chakra, A. Shiva Kishore Goud, T. Krishnaveni, Journal of NanoScience, Nanoengineering & Applications, Volume 1, Issue 2, , Pages 52-58, Sep, 2011.

❖ **Book Chapters:**

1. An Overview of Fuel Cells and Supercapacitors, Shreya Tumma, Divya Velpula, Uday Kumar Adapa, Shirisha Konda, Rakesh Kumar Thida, Madhuri Sakaray, **Shilpa Chakra Chidurala**, Bala Narasaih Tumma, and Srilatha K, Energy Harvesting and Storage Devices: Sustainable Materials and Methods, Taylor & Francis, DOI: 10.1201/9781003340539-2, 25-46, 2023, ISBN: 9781032375083.
2. Synthesis and Characterization of Emerging Nanomaterials, **Chidurala Shilpa Chakra**, Velpula Divya, Konda Shireesha, Sakaray Madhuri, Thida Rakesh Kumar, Adapa Uday Krishna, and Deshmukh Rakesh, Emerging Materials Design, Characterization and Applications Emerging Material, Springer, 37-102, 2022, ISBN: 978-981-19-1312-9
3. Carbon: A Phantom for Nanocomposite-Driven Applications, S Madhuri, **CS Chakra**, TR Kumar, K Shireesha, SK Pavar, V Divya, Carbon Nanomaterial Electronics: Devices and Applications, 77-95, 2021
4. Applications of Carbon-Based Nanomaterials in Health and Environment: Biosensors, Medicine and Water Treatment, V Divya, SK Pavar, **CS Chakra**, TR Kumar, K Shireesha, S Madhuri, Carbon Nanomaterial Electronics: Devices and Applications, 261-284, 2021
5. High Surface Saccharum Officinarum Based Materials for Supercapacitor Applications, V. Divya, CH. Shilpa Chakra, T. Rakesh Kumar, K. Shireesha, Handbook of Supercapacitor Materials, Wiley -VCH.
6. Recent Progress in Photocatalytic Water Carbon Splitting Photocatalysts by Nanostructured-Influence TiO₂-of 2-Interfaces, Morphological Structures and Experimental Parameters, V Preethi, MM Kumari, NR Reddy, U Bhargav, KK Cheralathan **CH Shilpa Chakra** et al, Integrating Green Chemistry and Sustainable Engineering, 23, 2019
7. Removal of Pb²⁺ from Water using Silica Nano Spheres Synthesized on CaCO₃ as a Template: Adsorption Kinetics, M Manyangadze, J Govha, TB Narsaiah, **CS Chakra**, PA Swanthantra, Innovative Technologies for the Treatment of Industrial Wastewater, 125-147, 2017.
8. Removal of fluoride in water using amorphous nano metal oxides, J Govha, TB Narsaiah, **CS Chakra**, Innovative Technologies for the Treatment of Industrial Wastewater, 1-16, 2017.

❖ **Number of Conferences/ Workshops/Seminars/Training Programmes/FDP attended: 143**

❖ **Number of Conferences/ Workshops/Seminars/Training Programmes/FDP organized: 28**

❖ **Awards/Fellowships:**

- ❖ Awarded as Young Faculty from Venus International Faculty Award in 2016.
- ❖ Elected as Associate Fellow of the academy in recognition contributions to Science and Technology, from Andhra Pradesh Akademi of Sciences in 2018.
- ❖ Elected as Associate Fellow of the academy in recognition contributions to Science and Technology, from Telangana Academy of Sciences in 2019.
- ❖ Fellow of LSF- Asian Record Book in the areas of Science & Technology from Lee Shreyus Foundation, Recognized by Ministry of Cooperate, GoI in 2021.
- ❖ Vivekananda Prize Award from Institute of Researchers, Recognized by Ministry of MSME, GoI in 2022.
- ❖ Young Researcher Award from Institute of Researchers, Recognized by Ministry of MSME, GoI in 2022.
- ❖ Awarded as Meritorious Teacher by Govt. of Telangana, Higher Education Department in 2023.

❖ **Academic activities:**

- ❖ M.Tech. (Nanotechnology) I Year /I Semester 22NT08 Nano Biomedical Applications
- ❖ M.Tech. (Nanotechnology) I Year /I Semester 22NT20L Synthesis of Nanomaterials Lab
- ❖ M.Tech. (Nanotechnology) I Year /I Semester 22NT21L Fabrication and Characterization of Nanomaterials Lab
- ❖ M.Tech. (Nanotechnology) I Year /II Semester 22NT24 Nanotechnology for Energy Systems
- ❖ M.Tech. (Nanotechnology) I Year /II Semester 22NT39L Nanostructured Material Application Lab
- ❖ M.Tech. (Nanotechnology) I Year /II Semester 22NT41P Mini Project with Seminar
- ❖ M.Tech. (Nanotechnology) II Year /III Semester 22NT48 Applications of Nanotechnology
- ❖ M.Tech. (Nanotechnology) II Year /III Semester 22NT50P Dissertation Work Review-II
- ❖ M.Tech. (Nanotechnology) II Year /IV Semester 22NT51P Dissertation Work Review-III Viva Voce
- ❖ M.Tech. (Nanotechnology) II Year /IV Semester 22NT52 P Dissertation Evaluation (Viva-voce) Voce

❖ **Outreach activities during COVID-19 first wave/Lockdown:**

- ❖ Made Efforts for **COVID-19** by 3D printing **Face Shields** for doctors and concerned health care workers and Police.

❖ **Professional Activities:**

- ❖ Board Member of Defence Research & Development Organisation Technical Cadre (DRTC) Assessment-2023 (05/07/2023 – 06/07/2023)
- ❖ BOS Chairperson for Nanotechnology, JNTUH (2016 – 2021).
- ❖ BOS Member for B. Tech. Material Science and Nano Technology, JNTUH (2015-2016).
- ❖ BOS Member for Nano Technology, JNTUH (2017-2018).
- ❖ BOS Member for Nano Technology, JNTUH (2019-till date).
- ❖ Life Member of Institution of Engineers (M-1768101)
- ❖ Life Time Member of Youth Environmental Council
- ❖ Life Member of Indian Science Congress.
- ❖ Life Member of Electron Microscope Society of India.
- ❖ Life Member of Nano and Molecular Society.
- ❖ Life Member of Indian Crystallographic Association.
- ❖ Life Member of Nano Science and Technology Consortium.
- ❖ Life Member of Powder Metallurgy Association of India.
- ❖ Life Member of Society for Materials Chemistry.
- ❖ Advisory Board Member of United Research Forum
- ❖ Member of Institutional Biosafety Committee, DBT, GoI (09/04/2019-09/04/2020)
- ❖ Executive Board member for Lee Shreyus Foundation
- ❖ R&D Advisor member in Nanospan India Pvt Ltd
- ❖ Member Technical Advisory Board, VNRVJIET
- ❖ Member of Institutional Biosafety Committee, DBT, GoI (05/08/2022-Till date)
- ❖ Executive Council member Hyderabad Chapter of Indian Carbon Society (ICS) (2023 – till date)
- ❖ Editor-Journal of Advanced Materials and Nano Research (JAMNR)
- ❖ Reviewer for International Journals from Springer, Wiley, Elsevier

❖ **Administrative Positions Held :**

- ❖ Officer in-charge for Examination, UCETH, JNTUH (12/05/2023 – Till date)
- ❖ NAAC 3rd Cycle Criteria – III in-charge (22/09/2022 – Till date).
- ❖ Criteria in-charge for NAAC Institutional Level, IST (13/10/2022-31/12/2022).
- ❖ Procurement Coordinator for Institute of Science and Technology, JNTUH (28/3/2022 – 28-05-2023).
- ❖ IQAC, Coordinator for Institute of Science and Technology, JNTUH (16/12/2021 – 12/11/2022).
- ❖ AICTE Coordinator for Institute of Science and Technology, JNTUH (29/05/2022 – 31/12/2022).
- ❖ Training and Placement Coordinator for Institute of Science and Technology, JNTUH (11/11/2021 – 23/04/2022).
- ❖ Academic Coordinator for Institute of Science and Technology (29/05/2020 -30-12-2022).
- ❖ Head of the Department, Centre for Nano Science and Technology (2020-Till date).
- ❖ Coordinator for Management Information System (MIS), TEQIP-III (2019- 2022).
- ❖ BOS Member for Nano Technology, JNTUH (2019-2020).
- ❖ Coordinator for Procurement Management Support System (PMSS), TEQIP-III (2018- 2020).
- ❖ Chaired a session 3rd International Conference on Environmental Management (ICEM-2017) (27/11/2017 - 30/11/2017).
- ❖ BOS Member for Nano Technology, JNTUH (2017-2018).
- ❖ BOS Chairperson for Nanotechnology, JNTUH (2016 -2021).
- ❖ Nodal Officer Procurement, TEQIP-II (2015-16).
- ❖ Chaired a session for 2nd Two-day national conference on Water Environment & Society (30/07/2015-31/07/2015).
- ❖ BOS Member for B. Tech. Material Science and Nano Technology, JNTUH (2015-2016).
- ❖ Head of the Department, Centre for Nano Science and Technology (2013-2017).
- ❖ Assistant Professor AGP 7000 (07-07-2010).

❖ **Project/Research Guidance (only numbers)**

- R & D Projects Sanctioned/Granted: 12
- Research guidance:
 - M.Tech:87
 - B. Tech:23
 - Ph. D:03 (Pursuing)
 - M.Sc: 18

❖ **Countries/Foreign Universities Visited :**

- Arizona State University, Phoenix, USA (2014-15).
- Visit to Nan Yang Technological University, Singapore (2022-23)

❖ **Area of Expertise:**

Nanotechnology based applications: Energy Storage & Conversion technology (Fabrication of Batteries, Supercapacitors, Nano-generators etc.), Nano-biosensor, Carbon Based Materials, Nano-Biotechnology, Surface Coatings, 3D Printing/ Additive manufacturing, Polymers and its composites, Anti-Cancer and Anti-Microbial Application, Electrospinning, Water Purification, Agriculture, Nutrition improvement in Food, Textile Application.

❖ **Web Pages:**

Faculty Webpage: https://jntuhist.ac.in/faculty_details/14/dept/531

AICTE Faculty ID:1-12134455624

Google Scholar: <https://scholar.google.co.in/citations?user=gTm-lG4AAAAAJ&hl=en>

Research Gate: <https://www.researchgate.net/profile/Shilpachakra-Chidurala>

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