CURRICULUM VITAE

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CAREER OBJECTIVE

Seeking *a researcher position* in a leading international research university/institution/laboratory with an *interdisciplinary group*. Ambition is eventually lead to *broad-based academic career* including research, management and teaching responsibilities.

EDUCATION

- **PhD in Physics**
  University of Hyderabad
  (https://www.uohyd.ac.in/)
  Hyderabad, India.

  Thesis titled: "*Development of Al (Fuel) and nc-Ceria (Oxidizer) Nanocomposites – Sonoprocess, Crystal growth, and Energetics*"
  Submitted Thesis can be reached through link below:
  https://www.researchgate.net/publication/342923283_DEVELOPMENT_OF_Al_FUEL_AND_nc-cERIA_OXIDIZER_NANOCOMPOSITE_-SONOPROCESS_CRYSTAL_GROWTH_AND_ENERGETICS

- **M.Phil in Physics**
  Pondicherry University
  (http://www.pondiuni.edu.in/)
  Puducherry, India.

  Thesis titled: "*Synthesis of porous silicon and a study on the anodization of the gamma irradiated silicon* "

- **M.Sc in Physics**
  Ravenshaw University
  (https://www.ravenshawuniversity.ac.in/Home.php)
  Cuttack, India.

  "*Electronics Specialization*"

RESEARCH INTEREST

"*Exploration with elucidation by quality publications of the most basic solid-state material physical happening at both nano/bulk dimensions*". This is enthused by the research foundation built during my Ph.D. to bio-mimic growth of minerals. Recent decade significant term "Oriented Attachment". Clearly the interplay of surface/interface interactions, and also whether solvent also plays a role are still open ended questions, are under explorations.

LABORATORY AND INSTRUMENTATION SKILLS

- Well versed and Skilled to take Physics laboratory courses, IMSc Optometry one semester lab course taught and evaluated (*@ UoH during Ph.D.*)
- **Imaging**: Atomic Force Microscopy (SPI3800N/SPA400, SII Nanotechnology Inc.), FE-Scanning Electron Microscopy (Zeiss-make Ultra 55 model). (*Handle/operation/data analysis*)
- **Spectroscopy**: UV-Vis-NIR Spectroscopy (JASCO V-570), Fluorescence Spectroscopy (Perkin Elmer). Raman spectrometer (Witec Alpha300) (*Handle/operation/data analysis*)
- **Thermal Analysis**: Differential Scanning Calorimetry (Diamond DSC 8000), Simultaneous Thermogravimetry and differential scanning calorimetry (TA Instruments STD Q600). (*Handle/operation/data analysis*)
- **Structural**: X-Ray Diffractometer (Model Discovery advance D8 of Bruker) (*Handle/operation/data analysis*)

COMPUTATIONAL SKILLS (GOOD AT)

- Operating Systems & Applications: Window, MS office (Word, excel, power-point etc.)
- Scientific Software's: Origin, Endnote, Matlab, Brucker TOPAS, Full Proof, Material Studio, CasaXPS,

SCHOLARSHIP AND HONOR

- Appointed as Junior Research Fellow by ACRHEM in 2010

HIGHLIGHTS OF THE PHD THESIS WORK

- "Oriented Attachment of ceria nanocrystallites": An in Situ Transmission Electron

Microscopy realization. (*Manuscript under preparation to be submitted to nanoscale*)

- "Sonocrystallization in realizing graphitic carbon at ambient": A case study of ultrasonic solution processing. (*Manuscript under preparation to be submitted to ultrasonic sonochemistry*).
- "The role of water in ceria nanocrystallites oriented attachment process": visualizing biominerals non-classical crystal growth and spectroscopic study. (*Manuscript under preparation*).

MEMBERSHIP IN PROFESSIONAL BODIES

- Electron Microscopy Society of India (EMSI): *Life Member No*:1600 (https://www.emsi.org.in/members-list/)
- Material Research Society of India (MRSI): *Life Member No*: LMB 3062 (http://www.mrsi.org.in/member-details.php)
- Indian Physics Association-TIFR (IPA): *Life Member No*: GEM/LM/13344 (https://www.tifr.res.in/~ipa1970/)

TRAINING PROGRAMS/CONFERENCES/PRESENTATIONS ATTENDED

- Participated in the two-day workshop entitled "High Resolution TEM methods: STEM, EELS and In-situ", jointly organized by EMSI and NISER BBSR, held during 16-17th July, 2018.
- Participated in Frontiers in Nanoscience and Technology organized by Center for Nanotechnology, University of Hyderabad during 6-7th April 2018.
- Attended a short term course on Electron Microscopy and Microanalysis of Materials (EMMM-2016) conducted by Advanced Center for Material Science IIT Kanpur from 1st to 5th August 2016
- Participated in the National seminar on Crystallography for Material Scientists' held at Defence Metallurgical Research Laboratory, Hyderabad on 1st-2nd September, 2014
- Presented poster in the International conference on Nano Science and Technology (ICONSAT-2014) held from 2nd to 5th march 2014, organized by Institute of Nano science and Technology.
- Participated Functional and Energy Materials, Manufacturing and Structures (FAEMMS-2013) at University of Hyderabad during march 25-26 2013.

RESEARCH CONTRIBUTIONS PUBLISHED

- Y. Rajesh, **S.K. Padhi**, and M.G. Krishna, ZnO thin film-nanowire array homo-structures with tunable photoluminescence and optical band gap. **RSC Advances, 2020**, 10(43), pp.25721-25729.
- **S.K. Padhi***, S.N. Gottapu, and M.G. Krishna, Electron-beam irradiation induced transformation of $Cu_2(OH)_3NO_3$ nanoflakes into nanocrystalline CuO. **Nanoscale**, **2016**, 8(21), pp.11194-11201.
- S.N. Gottapu, **S.K. Padhi**, M.G. Krishna, and K. Muralidharan*, Poly (vinylpyrrolidone) stabilized aluminum nanoparticles obtained by the reaction of $SiCl_4$ with $LiAlH_4$. **New Journal of Chemistry**, **2015**, 39(7), pp.5203-5207.
- K. Rajeswari, **S.K. Padhi**, A.R.S. Reddy, R. Johnson, and D. Das*, Studies on sintering kinetics and correlation with the sinterability of 8Y zirconia ceramics based on the dilatometric shrinkage curves. **Ceramics International**, **2013**, 39(5), pp.4985-4990.

REFEREES WHO KNOWS ME

- Prof. M Ghanashyam Krishna, CASEST-SOP, UoH, Hyderabad-500046.
  Webpage: http://sop.uohyd.ac.in/~mgk/
  Email: mgksp@uohyd.ac.in
  Relationship: Supervisor

- Prof. Soma Venugopal Rao, ACRHEM-SOP, UoH, Hyderabad-500046.
  Webpage: http://www.acrhem.org/venu_home.html
  Email: soma_venu@uohyd.ac.in
  Relationship: doctoral committee member

- Prof. S.V.S. Nageswara Rao, SOP, UoH, Hyderabad-500046.
  Scholar Web: https://scholar.google.co.in/citations?user=P2ko_TUAAAAJ&hl=en
  Email: svnsp@uohyd.ernet.in or nageshphysics@gmail.com
  Relationship: M. Phil supervisor

Should any clarification on an aspect of my CV become necessary, please do contact me!!