


Biodata

Name	Dr. S Sankara Narayanan Potty 
Designation	Scientist D
Educational qualification	M.Sc (Physics) from Mahatma Gandhi University, Kottayam. Ph.D from Mahatma Gandhi University, Kottayam.
Research area	Plasmonic materials, Plasmonic sensors, Transparent conducting oxide thin films, Transparent heaters, Thin film solar cell, Nanostructured Materials
Recognised Awards/Honors/Fellow	<ul style="list-style-type: none"> • Young Scientist Award in Physical Sciences, KSCSTE, Government of Kerala • Visiting Scientist fellowship at the Royal Institute of Technology, Stockholm, Sweden
Projects	<p>a. Ongoing</p> <ol style="list-style-type: none"> 1. Development of transparent conducting oxide and metal nitrides as low loss plasmonic materials in near IR and visible frequencies. (TH/SP/059) (Sponsored by BRNS, Outlay: Rs. 31.83 lakhs DoS: 28.08.2017; DoC: 27.08.2020) 2. Development of transparent conducting oxide based fibre optic plasmonic hydrogen and ammonia sensors. (TH/SP/060) (Sponsored by SERB, Outlay: Rs. 44.84 lakhs DoS: 20.10.2017; DoC: 19.10.2020) 3. Development of a new and cost effective biosensor based on transparent conducting oxide thin films working in near IR frequency. (TH/SP/064) With RGCB, Thiruvananthapuram (Sponsored by DST, Outlay: Rs. 48.20 lakhs (C-MET's contribution) DoS: 31.10.2018; DoC: 30.10.2020) <p>b. Completed</p> <ol style="list-style-type: none"> 1. Development of Transparent Conducting Oxide based Plasmonic materials and devices, (TH/CC/T6) (C-MET Core Project, DoS: 15.12.2014; DoC: 31.03.2017) 2. Development of thin film solar cell with earth-abundant kesterite absorber, (TH/SP/049) (Sponsored by DST, Outlay: Rs. 45.83 lakhs DoS: 12.10.2013; DoC: 11.02.2017) 3. Development of transparent conducting oxides through solution processes for thin film electronics, (TH/SP/033) (Sponsored by BRNS, Outlay: Rs. 19.96 lakhs DoS: 29.06.2009; DoC: 30.09.2012) 4. Development of polymer-ceramic nanocomposite solid electrolytes for electronic applications, (TH/SP/060) (Sponsored by SERB, Outlay: Rs. 08.28 lakhs DoS: 20.10.2005; DoC: 19.10.2020)
Publications/Patents (Past 5 years)	Patents

	<ol style="list-style-type: none"> 1. Novel route for nanoporous silica aerogel processing using a proprietary catalyst, P Sasidharan, R Ratheesh, S N Potty, P A Abraham, K P Murali (Indian Patent No. 241490) 2. A simple and cost effective process for the preparation of pseudoboehmite from aluminium metal, Sankara Narayanan Potty S, Packia Selvam I and Sivadasan A K, (Indian Patent. Year of filing 2016; File No. 201611036739) 3. A Transparent Heater and a Method of Preparation Thereof, S N Potty, I Packia Selvam, P Prabeesh, Sajeesh V G, Vysakh Viswanathan (Indian Patent. Year of filing 2020; File No. 202011025724) <p>Publications (Past 5 years)</p> <ol style="list-style-type: none"> 1. CZTS solar cell with non-toxic buffer layer: A study on the sulphurization temperature and absorber layer thickness, P. Prabeesh, V.G. Sajeesh, I. Packia Selvam, M.S. Divya Bharati, G. Mohan Rao, S.N. Potty, Solar Energy (in Press) 2. Study on the doping effect of spin coated Al and In doped and (Al/In) co-doped ZnO thin films for near-infrared plasmonic applications, K. Soumya, I. Packia Selvam, S.N. Potty, Thin Solid Films 687 (2019) 137482 3. CZTS films from three different routes: Crystallite size-dependent properties, P. Prabeesh, I. Packia Selvam, S. N. Potty, Material Research Express, 6 (2019) 065509 4. Cu₂ZnSnS₄ Thin Films by Dip Coating from Metal-Thiourea Precursor Solution: Effect of Sulphurization Temperature on the Formation and Structural, Optical and Electrical Properties, Prabeesh P, K V Vysakh, I Packia Selvam, S. N. Potty. Journal of Electronic Materials, 47 (2018) 5396. 5. Structural properties of CZTS thin films on glass and Mo coated glass substrates: a Rietveld refinement study. Prabeesh P, I Packia Selvam, S. N. Potty. Applied Physics A: Material Science and Processing 124, (2018) 225. 6. Electrical and Optical Properties of Aluminium Doped Zinc Oxide Transparent Conducting Oxide Films Prepared by Dip Coating Technique, Libu M, I Packia Selvam, S N Potty, Microelectronics International, 34/1 (2017) 1–8 7. Fabrication of CZTS thin films by dip coating technique for solar cell applications, P. Prabeesh, P. Saritha, I. Packia Selvam, S.N. Potty, Materials Research Bulletin, 86 (2017) 295–301 8. P. Prabeesh, P. Saritha, I Packia Selvam, S. N. Potty, Fabrication of Kesterite Absorber films by spray pyrolysis: Effect of annealing temperature on the phase formation, Advanced Materials Proceedings 2 (2017) 46-50. 9. Effect of annealing temperature on a single step processed Cu₂ZnSnS₄ thin film via solution method, P Prabeesh, I Packia Selvam, S N Potty, Thin Solid Films,606 (2016) 94–98
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