

Dr. Sujai P.T.
CSIR –NIIST Trivandrum

C/O Dr. Kaustabh Kumar Maiti
Principal Scientist, Organic Section, CSTD
CSIR-NIIST Thiruvananthapuram-19, Kerala, India

Working Area: Development of SERS based theranostic agents for cancer therapy (chemistry biology interface)

Residential Address: Kalathingal House
Kuzhimanna P.O
Teacher padi, Kizhisseri
Malappuram Dt, Kerala, India-673641



Personal

Name : **Sujai P. T.**
Age & Date of Birth : 30 years, 6th May-1990
Mobile : 9633175299
Email : ptsujai@gmail.com

Academic Background

Course	Subjects	Board / University	Year of passing	Percentage/C GPA
PhD	Chemistry	AcSIR	Sep-2020	-
Msc Chemistry (Department of chemistry university of calicut)	Applied Chemistry	Calicut University	2011-2013	CGPA = 7.32
BSc Chemistry (St. Joseph College Devagiri)	Chemistry	Calicut University	2008-2011	89.4 %
PLUS TWO	Physics, Chemistry, Biology & Mathematics	Board of Higher Secondary Examination	2006-2008	86%
SSLC	Languages, Science & Mathematics	General Education Department	2006	93%

Research Experience

1. **PhD (AcSIR), Jan 2015** Design, Fabrication and Biological Assessment of SERS Guided Nanotheranostic Probes for Effective Cancer Management **Advisor:** Dr.Kaustabh Kumar Maiti (kkmaiti29@gmail.com)
2. **MSc final year project** entitled “*Solid State NMR evaluation on silicates*” at CSIR-NCL Pune, 3 MONTHS
Advisor: Dr. T.G Ajith Kumar

List of Publications:

Sl. No.	Status of Author	Title	Name of Journal	Name of Publisher	Month and Year of Publication	Volume/Issue/ Page No.	ISSN No.	Impact Factor, if any
1	First Author	Elucidating Gold-MnO ₂ Core-shell Nanoenvelope for Real Time SERS -Guided Photothermal Therapy on Pancreatic Cancer Cells	ACS Applied bio materials	American Chemical society-USA	2021	4, 6, 4962–4972	2576-6422	
2	First Author	Surface charge modulates the internalization vs penetration of gold nanoparticles: A comprehensive scrutiny on monolayer cancer cells, multicellular spheroids and solid tumor by	Nanoscale	Royal society of chemistry- The united kingdom	2020	12,6971-6975	2040-3372	6.9

		SERS modality						
3	First Author	Biogenic Cluster-Encased Gold Nanorods as a Targeted Three-in-One Theranostic Nanoenvelope for SERS-Guided Photochemotherapy against Metastatic Melanoma	ACS Applied bio materials	American Chemical society-USA	2018	2, 1, 588-600	2576-6422	
4	Second Author	Endogenous H ₂ S Assisted Cancer-Cell-Specific Activation of Theranostics with Emission Readout	ACS Applied bio materials	American Chemical society-USA	2019	2, 1322-1330	2576-6422	
5	Sixth Author	Exploring the margins of SERS in practical domain: An emerging diagnostic modality for modern biomedical applications	Biomaterials	ELSEVIER-Netherland	2018	181, 140-181	0142-9612	10.317
6	Fifth Author	Elucidating a Thermo-responsive Multimodal Photo-Chemotherapeutic Nano-delivery Vehicle to Overcome the	ACS applied materials and interfaces	American Chemical society-USA	2020	12,39, 43365-43379	1944-8252	8.758

		Barriers of Doxorubicin Therapy						
--	--	--	--	--	--	--	--	--

Participation in Conferences

1. Delivered oral presentation and awarded best scientific presentation award on International Conference on Trends in Biochemical and Biomedical Research (13-15 February 2018) organized by Department of Biochemistry, Banaras Hindu University, Varanasi. Biogenic Cluster-Encased Gold Nanorods as a Targeted Three-In-One Theranostic Nanoenvelope for SERS Guided Photo-Chemotherapy Against Metastatic Melanoma.
2. Presented poster in 18th National Symposium in Chemistry (NSC-18), Panjab University, Chandigarh, India, 2016, February 5-7. Stimuli Responsive Nanocarrier Drug Delivery System (DDS) For Targeted Delivery of Doxorubicin towards Folate Expressing Cancer Cells”, **P.T. Sujai** , A. N. Ramya, M. M. Joseph, and K. K. Maiti,
3. Presented poster in International Conference on Chemistry for Human Development (ICCHD-2020) at Heritage Institute of Technology, Kolkata 9th -11th January, 2020, SERS Evaluation of Surface charge dependence on internalization and penetration depth of gold nanoparticles in Cancer cells, multicellular spheroids and tumors in vivo **P.T. Sujai**, Giridharan Saranya, M.M. Joseph, K. K. Maiti
4. Presented poster in 8th Annual Meeting of Indian Academy of Biomedical Sciences and Conference on Deliberation on Translation of Basic Scientific Insights into Affordable Healthcare Products held at CSIR-National Institute for Interdisciplinary

Science and Technology, Thiruvananthapuram (Feb 25-27, 2019) Biogenic Cluster-Encased Gold Nanorods as a Targeted Three-In-One Theranostic Nanoenvelope for SERS Guided Photo-Chemotherapy Against Metastatic Melanoma **P.T. Sujai**, M.M. Joseph, S. Shamjith, K. K. Maiti

5. Participated in The International Symposium on Photonics Applications and Nanomaterials; Organized by Sree Chitra Tirunal Institute for Medical Sciences & Technology, Thiruvananthapuram (Oct, 28-30th, 2015)
6. Participated in 8th East Asia Symposium on Functional Dyes and Advanced Materials; Organized by CSIR-National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram (September, 20-22, 2017); A Ratiometric Near Infrared Fluorogen for the Real Time Visualization of Intracellular Redox Status during Apoptosis, Poster presentation: Giridharan Saranya, Manu M. Joseph, Varsha Karunakaran, **Sujai P. T.**, Kaustabh K. Maiti and Ayyappanpillai Ajayaghosh.
7. Participated in 6th Asian Biomaterial Congress on Innovative Biomaterials: Technologies for Life and Society; Organized by Sree Chitra Tirunal Institute for Medical Sciences & Technology, Thiruvananthapuram (October, 25-27, 2017); A Ratiometric Near Infrared Fluorogen for the Real Time Visualization of Intracellular Redox Status during Apoptosis, Poster presentation: Giridharan Saranya, Manu M. Joseph, Varsha Karunakaran, **Sujai P. T.**, Kaustabh K. Maiti and Ayyappanpillai Ajayaghosh.

Research Expertise

1. Synthetic Organic Chemistry, solid phase peptide synthesis, Nano particle synthesis.
2. Synthesis of Nano particles and tuning them into SERS based diagnosis and

therapeutic applications

3. Expertise in cell culturing of both cancer and normal cell lines and preliminary in vitro assays and imaging.
4. Expertise on instruments such as Confocal Raman microscope, Fluorescence spectrometer, Fluorescence Microscope, Dark field Microscope
5. Expertise in the spectral analysis such as IR, NMR and Raman
6. Handling experience on IR, UV-Vis, HPTLC, lyophiliser, Rotary evaporator

Research Skills

Analytical skills

- (i) Synthesis and characterization of organic molecules.
- (ii) Separation techniques in organic chemistry lab.
- (iii) Expertise on instruments such as Confocal Raman microscope, Fluorescence Microscope, Dark field Microscope, Lyophiliser, Rotary evaporator
- (iv) Handling experience on IR, UV-Vis
- (v) Experience in the spectral analysis such as IR, NMR and Raman.

Biological expertise:

1. In vitro cell culture
2. Preliminary assays like toxicity assays, fluorescence imaging in cells, apoptotic assays.

Professional experiences and Personal skill

- ✓ Maintenance of good interpersonal relationship
- ✓ Team working skills
- ✓ Honesty and integrity

Computer skills:

Adapt knowledge in using various computer programs such as MS Office Programs, Chem-Draw and Origin, Mendeley reference manager

Languages: Fluent in English, Malayalam and Tamil.

REFERENCES

1. Dr. Kaustabh Kumar Maiti

Principal Scientist

Organic chemistry section

CSTD,CSIR-NIIST Thiruvananthapuram

E-mail: kkmaiti29@gmail.com

2. Dr. Ravishankar L.

Senior Scientist

Organic chemistry section

CSTD,CSIR-NIIST Thiruvananthapuram

E-mail: raviweblog@gmail.com