Dr. Sujai P.T.
CSIR –NIIST Trivandrum

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

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

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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/CGPA
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	2005	**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-MnO2 Core-shell Nanoenvelope for Real Time SERS-Guided Photothermal Therapy on Pancreatic Cancer Cells	ACS Applied bio meterials	American Chemical society-USA	2021	https://doi.org/10.1021/acsabm.1c00241	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 TheranosticNanoenvelope for SERS-Guided Photochemotherapy against Metastatic Melanoma**	**ACS Applied bio meterials**	**American Chemical society-USA**	**2018**	**2, 1, 588-600**	**2576-6422**	
4	**Second Author**	**Endogenous H_2S Assisted Cancer-Cell-Specific Activation of Theranostics with Emission Readout**	**ACS Applied bio meterials**	**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 9^{th} -11^{th} 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) Seperation techniques in organic chemistry lab.
(iii) Expertise on instruments such as Confocal Raman microscope, Fluoresence Microscope, Dark field Microscope, Liophiliser, 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**
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   CSTD,CSIR-NIIST Thiruvanathapuram
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   Organic chemistry section
   CSTD,CSIR-NIIST Thiruvanathapuram
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