DEPARTMENT OF SCIENCE AND HUMANITIES

Name :**Dr. R. RAJASEKARAN**

Designation :**ASSOCIATE PROFESSOR**

Email **rajasekaran.phy@sairamit.edu.in**

Qualification :**M.Sc., B.Ed., Ph.D.**

Specialization :**Physics**

Research Interest :Biophotonics, Spectroscopy, Photodynamic Therapy, Nano Materials

Experience in years : **Teaching** UG 4 PG 3 **Industry** 1

No. of Workshop/Conferences/ FDP attended : Workshop 2 Conferences 07 FDP 5

No. of Workshop/Conferences/ FDP Organized : Workshop - Conferences - FDP -

Professional Membership	**Indian Laser Association**
Publications	National: **1**
	International: Journal: **13,** Conference Proc.,: **8**
	Book:
Research Funded Projects	
Patents	3
Achievements	1. **Received CAPES fellowship for one year from Govt. of Brazil for doing Post Doctoral Research** 2. **Delivered Invited talk at SPIE Photonics West 2017 – San Francisco USA**
Any Other Information	1. **Reviewer for various SCI Journals** 2. **Anna University recognized supervisor for guiding Ph.D & M.S(By Research)**

List of Publications:-

Papers in International Journals

1. **Ramu Rajasekaran**, Prakasa Rao Aruna, Dornadula Koteeswaran, Loganathan Padmanabhan, Kulandaivel Muthuvelu, Ram Rathan Rai, Palraj Thamilkumar, Chilakapati Murali Krishna, Singaravelu Ganesan," Characterization and Diagnosis of Cancer by Native Fluorescence Spectroscopy of Human Urine", **J. Photochem. and Photobiol.**, 2013, 89: 483–491.

2. **Ramu Rajasekaran**, Prakasa Rao Aruna, Dornadula Koteeswaran, Ganesan Bharanidharan, Munusamy Baludavid and Singaravelu Ganesan, "Steady-state and time-resolved fluorescence spectroscopic characterization of urine of healthy subjects and cervical cancer patients", **J. Biomed. Opt.**, 2014, 19(3), 037003-9.

3. **Ramu Rajasekaran**, Prakasarao Aruna, Dornadula Koteeswaran, Munusamy Baludavid, Singaravelu Ganesan, "Synchronous luminescence spectroscopic characterization of urine of normal subjects and cancer patients" **J. of Fluoresc.,** 2014, 24, 1199-1205.

4. Niranzena PA, Jayachandran S, Ganesan S, **Rajasekaran R**, "Treatment of oral leukoplakia with photodynamic therapy – a pilot study", **J. Can. Res. & Therapeutics,** 2015, 11(2), 464-467

5. Everton Diniz dos Santos, Gerson Luqueta, **Ramu Rajasekaran**, Thaisa Baesso dos 6 Santos, Anelise Cristina Osorio Cesar Doria , Polyana Alves Radi, Rodrigo Savio Pessoa, Lucia Vieira, Homero Santiago Maciel, "Macrophages Adhesion Rate On Ti-6al-4v Substrates: Polishing 3 And Dlc Coating Effects" **Res. Biomed. Eng. -** 2016 – 32(2), 144 – 152.

6. Claudio A. Tellez S., Liliane Pereira, Laurita dos Santos, **Ramu Rajasekaran**, Priscila Favero, Airton A. Martin, "DFT:B3LYP/3-21G theoretical insights on the Confocal Raman experimental observations in skin dermis of healthy young, healthy elderly and diabetic elderly women", **J. Biomed. Opt.** - 2016 – 21 (12), 125002.

7. Elumalai Brindha, **Ramu Rajasekaran,** Prakasarao Aruna, Dornadula Koteeswaran and Singaravelu Ganesan - Highwavenumber Raman spectroscopy in the characterization of urinary metabolites of Normal Subjects, Oral Premalignant and Malignant Patients. **Spectrochimica Acta. Part A**, 2017 – 171, 52-59.

8. Monica Bergamo Lopes, **Ramu Rajasekaran**, Ana Clara Figueira Lopes Cançado, Airton Abrahão Martin, "*In vivo* Confocal Raman Spectroscopic Analysis of the Effects of IR Radiation in the Human Skin Dermis" – **Photochemistry and Photobiology –** 2017 – 93 (2), 613 – 618.

9. Luis Felipe Carvalho, Marcelo Saito Nogueira, TanmoyBhattacharjee, LázaroNeto, Lucas Daun, Thiago Mendes, **Ramu Rajasekaran**, Maurílio Chagas, Airton Martin and Luis Eduardo Soares, "In vivo Raman spectroscopic characteristics of different sites of the oral mucosa in healthy volunteers" – **J. Clin. Oral Investigation, 2018, 23(7), 3021-3031.**

10. Medeiros-Neto, L.P., Tellez Soto, C.A.; Chagas, M.J., Carvalho, L.F.C., **Rajasekaran, R.,** Martin, A.A.,"In Vivo Raman Spectroscopic Characterization Of Papillary Thyroid Carcinoma" – **J. Vibrational Spectroscopy, 2019, 101(0), 1-9.**

11. Gerson R Luqueta; Julia M Abdala; **Rajasekaran Ramu**; Elisa Esposito; Erico Teixeira; Leandro B Rezende; Lucia Vieira; Homero S Maciel; Milton Beltrame, "Antimicrobial silver

coating using PVD-PECVD system", **Indian J. of Fibre & Textile Research, 2020, 45(2), 197-206.**

12. Shanmugam M, C Jayashree, **Rajasekaran R**, Brindha E, Saeedah M A, Govind Raj M, J Kim, Abinaya S, Senthil B, Atchudan R: "Emerging silver-doped strontium titanate nanostructures as photocatalysts for the degradation of organic pollutants under visible light" J. of Molecular Structure, 2024, 1306,137854.

13. Yalini Devi Neelan , Senthil Bakthavatchalam , Shanmugam Mahalingam , Krishnasamy Sreenivason Yoganand , Shunmuga Vadivu Ramalingam, Umamaheswari Rajendran, **Rajasekaran Ramu** , Tae-Youl Yang , Junghwan Kim and RajiAtchudan "Nanoalchemy: Unveiling the Power of Carbon Nanostructures and Carbon–Metal Nanocomposites in Synthesis and Photocatalytic Activity " **Catalysts 2024, 14, 618**

Papers in International Conference / Proceedings:

1. **Ramu Rajasekaran**, Prakasa Rao Aruna, Munusamy Balu David, Dornadula Koteeswaran, Kulandaivel Muthuvelu, Rai R, Singaravelu Ganesan, "Steady state and time-resolved fluorescence spectroscopic characterization of normal and cancerous urine", **SPIE Proc**. 2013, Vol. 8577, DOI: 10.1117/12.2006086

2. **R. Rajasekaran**, E. Brindha, P. Aruna, S. Ganesan, "Fluorescence Emission Spectroscopic Characterization of Urine of Normal Subjects and Breast Cancer Patients", **OSA Optical Infobase**, 2014.

3. Brindha Elumalai, **Ramu Rajasekaran**, Prakasarao Aruna, Dornadula Koteeswaran, Singaravelu Ganesan, "Discrimination of Premalignant conditions of oral cancer using Raman Spectroscopy of urinary metabolites", **SPIE Proc**. 2015, Vol. 9318, DOI: 10.1117/12.2078029.

4. E. Brindha, **R. Rajasekaran,** L. Pereira, P. Aruna, D. Koteeswaran, A. A. Martin, S. Ganesan, "Raman Spectroscopy of Human Urine in the Diagnosis of Cervical Cancer", **Proc. of EnBraER**, 2015, Brazil.

5. **Ramu Rajasekaran**, Brindha Elumalai, Prakasarao Aruna, Dornadula Koteeswaran, Singaravelu Ganesan, "Fluorescence anisotropy characterization of urine in the diagnosis of cancer", **SPIE Proc.** 2016, Vol. 9703, doi: 10.1117/12.2212618.

6. **Ramu Rajasekaran**, Brindha Elumalai, Prakasarao Aruna, Dornadula Koteeswaran, Singaravelu Ganesan, "The effect of Stokes Shift in the discrimination of cervical cancer from normal subjects", **SPIE Proc.** 2016, Vol 9703, doi.10.1117/12.2213178.

7. Brindha Elumalai, **Ramu Rajasekaran**, Prakasarao Aruna, Dornadula Koteeswaran, Singaravelu Ganesan, "Raman spectroscopy of Bio Fluids : An exploratory study for oral cancer detection", SPIE **Proc.** 2016, Vol 9703, doi: 10.1117/12.2212684.

8. **Ramu Rajasekaran**, Elumalai Brindha, Ganesan Bharanidharan, Biniyam Girma Manaye, Prakasarao Aruna, Singaravelu Ganesan" Optical characterization of riboflavin as a potential biomarker in the diagnosis of cervical cancer", SPIE Proc. 2024, Vol 12836, doi.org/10.1117/12.3010046

9. Elumalai Brindha, **Ramu Rajasekaran**, Ganesan Bharanidharan, Biniyam Girma Manaye, Prakasarao Aruna, Singaravelu Ganesan" Raman and fluorescence spectroscopic characterization of pteridines in the blood of normal subjects and oral cancer patients", SPIE Proc.2024, Vol.12836, doi.org/10.1117/12.3010048

Conferences:

S.No	Conference on	Held on	Place
1.	**SPIE – Photonics West**	27.01.2024 – 1.02.2024	San Francisco, USA
2.	**SPIE – Photonics West**	28.01.2017 – 2.02.2017	San Francisco, USA
3.	**SPIE – Photonics West**	13.02.2016 - 18.02.2016	San Francisco, USA
4.	**EnBraER**	6.12.2015 – 9.12.2015	Juiz de Fora, MG, Brazil
5.	**Photonics**	13.12.2014 – 16.12.2014	IIT, Kharagpur
6.	**DAE – BRNS – NLS - 21**	8.01.2014 – 11.01.2014	Manipal, Karnataka
7.	**DAE – BRNS – NLS - 22**	6.02.2013 – 09.02.2013	BARC, Mumbai