



SRI RAMACHANDRA DENTAL CENTRE

Sri Ramachandra Dental Center, Chennai-600116

Fellowship Program in “Oral Cancer Genetics”

The Sri Ramachandra Dental Center and Department of Oral Pathology & Microbiology in association with Department of Human Genetics is pleased to announce the admission to

Fellowship Program in “ORAL CANCER GENETICS”

Course Details:

1. Name of the Program: Fellowship program in “ORAL CANCER GENETICS”

- **Qualification** : BDS/ MDS (any specialty)/ B.Sc or B.Sc (Hons)(Life Sciences, Biological Sciences, Biotechnology, Human genetics)
 - **Number of seats** : 3 (starts December 2023)
 - **Course Duration** : One year- Module based program- 4 modules in 1 year
 - **Course Fee** : Rs. 75,000 (Rupees Seventy-five thousand only) + 18% GST.
 - **Stipend** : Nil.
 - **Training timings** : 8.00 AM - 4.00 PM
- **Attendance requirement for examination: 90%.**
 - ***Last date for submitting Application November 10th 2023***
 - ***Training commences December 2023.***

Those interested may kindly submit the prescribed application form to below address

Address for communication:

The Medical Superintendent (Dental)
Sri Ramachandra Dental Center, Porur, Chennai-600116
Phone – 044 – 24768027 ; Extn : 8261 (8 to 4 pm)

Website : www.sriramachandra.edu.in
E mail : ms.dental@sriramachandra.edu.in

Contact Person: Dr Sharada: 9840082472



SRI RAMACHANDRA **DENTAL CENTRE**

Sri Ramachandra Dental Center, Chennai-600116

Fellowship Program in “Oral Cancer Genetics”

Application Form: 2023-24 session

S.NO	Candidate Details	Information
1.	Name of Candidate (BLOCK letters- as given in provisional/ degree certificate)	
	Expand the Initials	
	Complete Address (District / State / Pincode)	
	Communication Address (District / State / Pincode)	
	Phone No: Landline Number: Mobile Number :	
	E-mail ID	
	Father/ Husband’s Name:	
	Mother’s Name:	
	Contact Number of Parent	
2.	Gender of Candidate	Male/ Female
3.	Date of Birth [DD/MM/YY] / Age (yrs)	
4.	Place of Birth	

5.	DCI registration Number if applicable (Please enclose certificate) If applied for, it has to be submitted before admission	
6.	Qualifying Examination (please provide self- attested copies of the provisional/ degree certificates)	BDS/ MDS/B.Sc/ B.Sc(Hons)
7.	Name and address of the College and Affiliated University Undergraduate: Post graduate:	
8.	Whether college or course is recognized by DCI/ UGC	Yes/ No
9.	Whether the candidate has passed the exams on the first attempt Undergraduate: Post graduate:	Yes/ No. If no Mention the number of attempts. If yes write NA below
10.	Papers/ Posters Presented (mention number only and provide copy as attachment)	

	Undergraduate: Post graduate:	
11.	Publications (mention number only and provide copy as attachment)	
12.	Any other advanced training attended (mention number only and provide copy as attachment)	

DECLARATION BY THE CANDIDATE

I declare that the information furnished by me herein are true and correct. In case any information furnished herein is found to be incorrect or any document is found to be not genuine, I agree to forego my claim for admission and abide by the decision of the Sri Ramachandra Dental Centre authorities.

I further declare that I have read the prospectus furnished with the application form fully and understood the contents therein clearly and I hereby undertake to abide by the conditions prescribed therein. I undertake to abide by the Rules and Regulation of Sri Ramachandra Dental Centre.

Place:

Signature of the Candidate

Date:

Name:

Checklist of Documents: (Copies to be sent as attachment along with application form)

S. NO	Document	Provided (sent as attachment). Please tick as applicable.
1.	BDS /B.SC / B.Sc (Hons) Degree Certificate	Yes/ No
2.	MDS Degree certificate	Yes/ No/ NA
3.	DCI registration certificate	Yes/ No
4.	Papers/ Poster presentation certificate	Yes/ No
5.	Publications	Yes/ No
6.	Advanced Training	Yes/ No

Submit online Application (with attachments) to

The Medical Superintendent (Dental),
Sri Ramachandra Dental Centre, Porur, Chennai – 600 116.
Email: ms.dental@sriramachandra.edu.in

With copies marked to

dean.dental@sriramachandra.edu.in
vc@sriramachandra.edu.in
registrar@sriramachandra.edu.in

**Regulations and Syllabus for
Fellowship in 'ORAL CANCER GENETICS'**

Introduction and Relevance:

It is a proven fact that Cancer is caused by certain genetic changes that are inherited or acquired in one's lifetime. There has been a substantial increase in the global incidence of cancer. The Department of Oral Pathology and Microbiology has been actively contributing to the diagnosis of Oral Cancers using cytological techniques, biopsy techniques and molecular techniques including immunohistochemistry and immunofluorescence.

With the advent of rise in technology and availability of information, advanced diagnostic methods including genetic analysis seems to be the need of the hour. Genetic techniques have the advantage of looking into the grass root molecular level of the diseased tissue thereby contributing to not only diagnostic efficiency but also theranostic values.

This training program is for dentists who have completed BDS/MDS and for those who wish to sub-specialize in this emerging field and develop the knowledge and skills that are needed for the applications of genetics in research avenues.

Scope of the program:

The course is aimed at knowledge and skill building of general dentists, post graduate students and researchers for successful application in diagnosis as well as research application related to cancers.

This course will be of a value addition to those who would like to pursue their research interest in the field of genetics related to cancer for the purpose of higher studies, dissertation or doctoral thesis works.

Aim of the program:

To acquire knowledge and skill set in genetic and molecular techniques related to cancer

Objectives of the program:

1. To understand the basics of clinical pathology
2. To have a knowledge on basic tissue processing and cytological screening
3. To understand the concepts of immunohistochemistry
4. To have a foundation on RNA/DNA isolation techniques
5. To study the procedures of flow cytometry
6. To acquire the skills related to RT-PCR
7. To have adequate knowledge on the safety guidelines in the research labs and equipment related to cancer genetics

REGULATIONS FOR FELLOWSHIP PROGRAMME IN

“ORAL CANCER GENETICS”

Eligibility of the course:

Candidate shall possess

- Qualified BDS/MDS (Any specialty) or any Undergraduate degree in Life Sciences/Biological Sciences from this university or any other recognised university and obtained permanent registration from any state dental councils

Registration:

A candidate admitted to the Fellowship Program in Oral Cancer Genetics of Sri Ramachandra Dental Center, Porur, Chennai-600116, shall register his/her name with the Dental Center by remitting the prescribed fees along with the application for registration duly filled in and forwarded to the Medical Superintendent (Dental) of the Dental College.

Duration of the course:

The period of study and training for the fellowship program in Cancer Genetics shall be ONE academic year (8 Modules- 40 days/ 300 hours in total) for the award of Fellowship certificate

No exemption shall be given from the period of study and training

Commencement of the Course:

The academic year for the Fellowship Program in Oral Cancer Genetics would ordinarily, commence from the month of December of every academic year.

Cut-off dates

The candidates admitted and registered from 1st December 2023 to 30st November 2024 shall take up their regular examinations before the end of November 2024 at the end of the program.

Commencement of Examinations

There shall be an examination at the end of every module in an academic year- for 50 marks each and will be used for formative assessment. The examination at the end of the 8th module will be the final examination for 200 marks. This will be used as a summative assessment for deciding the issue of the fellowship certificate.

Attendance requirement for admission to examination:

No candidate shall be permitted to appear for the examination unless he/she puts in 90% attendance during his/her period of study and produces the necessary certificate of study, attendance and progress from the course director.

Condonation of Lack of attendance:

There shall be no condonation lack of attendance for students of the Fellowship Program. (90 %).

Number of appearances:

A candidate registered for the Fellowship Program in Oral Cancer Genetics must qualify in the examinations within two consequent attempts from the date of his/her admission, failing which he/she shall be discharged from the course.

Maintenance of Logbook

1. Every Fellow shall maintain a record of skills he/she has acquired during the training period certified by the Course Director/ Faculty of Departments under whom he/she has undergone training.
2. In addition, the Course Director shall involve their Fellows in Seminars, Journal Club, Group Discussions and participation in Clinical, Clinico-Pathological conferences.
3. Every Fellow should be encouraged to present short title papers in conferences and to make improvements on it and submit them for publication in reputed medical journals.
4. The Course Director shall scrutinize the logbook once at end of every module.
5. The logbook should be submitted at the time of clinical/practical examination for the scrutiny of the Board of Examiners.

Award of Certificate:

Certificate will be awarded duly signed by Course Director of the Fellowship program, Head of the Department and the Medical Superintendent [Dental] of Sri Ramachandra Dental Hospital. This program does not come under the purview of Dental Council of India and is not an additional registerable qualification with the Dental Council of India

Scheme of Examination conducted at the end of the Program

Theory Paper – 200 marks

- | | | |
|-----------------------|---------------|------|
| - 4 essays: | 10 marks each | - 40 |
| - 8 short notes: | 5 marks each | - 40 |
| - 30 MCQ | 20 marks | - 30 |
| - Internal assessment | | - 50 |
| - Case records | | - 40 |

Short exams of 50 Marks will be conducted at the end of every module for evaluating the understanding and progress shown by the candidates

Scheme of training program:

Protocols for training: Module based training system – 4 modules of training once in 3 months with 10 continuous days of training per module- over one academic year.

1. First & Second module: Clinical and diagnostic pathology, Tissue processing
2. Third & Fourth module: Cytological screening, Immunohistochemistry
3. Fifth & Sixth module: Molecular genetic Skills I- DNA& RNA Isolation, PCR
4. Seventh & Eighth module: Molecular genetic Skills II - Flow cytometry, Western blotting

Short exams of 50 marks will be conducted at the end of every module for evaluating the understanding and progress shown by the candidates.

Final exams- 200 marks will be conducted at the end of the 4th module.

Syllabus

The trainee will be expected to have in-depth knowledge in the following areas:

1. First module (Online): Introduction to Diagnostic and Clinical pathology, Tissue processing

Introduction to Basics of oral anatomical and histological structures, basics of oral cancer and its molecular pathogenesis, diagnostic aspects of oral cancer, theoretical aspects of clinical pathology, blood parameters and CBCT. Introduction to Tissue processing – Handling of tissue, steps in tissue processing and handling of microscopes

2. Second module: Hands on techniques

Hands-on course on clinical pathology including blood smears, tissue processing techniques, staining of slides and slide viewing sessions.

3. Third module (Online): Introduction to Cytological screening and theories of Immunohistochemistry

Technique of cytological smear preparation, staining procedures and differential diagnoses of lesions. Introduction to immunohistochemistry, handling of specimens, fixation and tissue processing steps, microtome sections, staining protocols, slide viewing and interpretation.

4. Fourth module: Hands on technique

Hands-on course for cytological smear preparation, smear staining and analysis, slide viewing & diagnostic interpretation of slides. Performance of immunohistochemical staining on tissue sections, slide analysis and interpretation.

5. Fifth module (Online): Introduction to DNA & RNA Isolation, PCR

Basics of nucleic acids isolation and techniques involved.

6. Sixth module: Molecular genetic skills part I

Handling of Specimens - Ensure specimen transport time and conditions have been appropriate to guarantee specimen, integrity and timeliness with reference to the relevant laboratory procedure

Nucleic acids- Prepare nucleic acids as required for testing programs to an appropriate purity standard

PCR - Oligonucleotide primers to maximize PCR sensitivity and specificity, Establish PCR reagent mixes for different PCR applications. Perform standard PCRs and Quantitative PCRs. Analysis and interpretation of the PCR results.

7. Seventh module (Online): Introduction to FISH, Flow cytometry, SDS PAGE and Western blotting

Basics, Working principles and quality control of the techniques.

8. Eighth module: Molecular genetic skills part II

Perform fluorescence in-situ hybridization (FISH) analysis for constitutional and acquired abnormalities and interpret the result.

Characterization and separation of cells by cellular markers. Interpretation and analysis of flow cytometry results. Perform SDS PAGE and western blotting.

Recommended Text Books:

- Bancroft's theory and practice of Histological techniques. Suvarna SK, Layton C and Bancroft JD. 2019. 8th edition, Elsevier Ltd.
- Shafers textbook of Oral Pathology. Sivapathasundaram B. 2016. 8th edition. Elsevier Ltd.
- Human Molecular genetics by Tom Strachan
- Biochemistry by Lehninger

Recommended Journals:

- Journal of Oral Pathology and Medicine
- Journal of Oral and Maxillofacial Pathology
- Indian Journal of Dental Research
- Journal of Genetics
- Molecular Cytogenetics
- Cancer Genetics and Genome Research
- Genes, Chromosomes and Cancer
- Nature

Databases and Search Engines

PubMed, Medline

Web of Sciences, Cochrane systematic reviews

Scheme of examination

(At the end of 1 year program)

Paper	Pattern	Maximum marks	Total marks	Minimum passing
Theory	4 essays – 10 marks each	40	200	100
	8 short notes – 5 marks each	40		
	MCQs 1 mark each-	30		
	Internal assessment	50		
	Case records	40		

Aggregate passing minimum: 100/200

Scheme of Training Program- Detailed Program Schedule

Program Details	Module	Tentative Dates
<ul style="list-style-type: none"> ✓ Blood smear preparation ✓ Staining of blood smears ✓ Examination of bold smears ✓ CBCT 	Module I & II	<p>December 4th to 8th 2023 (Online)</p> <p>December 12th to 16th 2023 (SRIHER)</p>
<ul style="list-style-type: none"> ✓ Cytological smear preparation ✓ Cytology smear staining using Haematoxylin and Eosin and PAP stains ✓ Microscopy handling ✓ Smear evaluation ✓ Tissue handling and processing for Immunohistochemistry ✓ Staining protocol for immunohistochemistry ✓ Slide evaluation techniques 	Module III & IV	<p>February 5th to 9th 2024 (Online)</p> <p>February 19th to 23rd 2024 (SRIHER)</p>
<ul style="list-style-type: none"> ✓ Sample collection and storage information ✓ DNA Isolation ✓ RNA Isolation ✓ Qualitative and Quantitative analysis of nucleic acids ✓ PCR ✓ cDNA conversion and QPCR 	Module V & VI	<p>April 3rd & 4th 2024 (Online)</p> <p>April 16th to 24th 2024 (SRIHER)</p>
<ul style="list-style-type: none"> ✓ Setting up of FISH reaction ✓ FISH analysis ✓ Flowcytometry reaction setup ✓ Flowcytometry Analysis ✓ SDS PAGE ✓ Western blotting 	Module VII & VIII	<p>July 3rd & 4th 2024 (Online)</p> <p>July 19th to 27th 2024 (SRIHER)</p>

Short exams of 50 marks will be conducted at the end of every module for evaluating the understanding and progress shown by the candidates. Final exam marks will decide the issuance of the fellowship certificate.