Curriculum for

Post-Doctoral Fellowship Course

in

Dermatopathology

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**SRI AUROBINDO UNIVERSITY**

SAIMS HOSPITAL CAMPUS, Indore Ujjain, State Highway, Bhawrasla, Indore, Madhya Pradesh 453555

**Post-Doctoral Fellowship in Dermatopathology (PDFC)**

Department of Pathology

SAMC & PGI, Indore

Madhya Pradesh, India

**Eligibility :**

MD/DNB Pathology / Dermatology

**Duration :** 1 year

**Preamble:**

Dermatopathology is a sub-specialty of both dermatology and surgical pathology that focuses on the study of cutaneous diseases at a microscopic level. It also encompasses analyses of the potential causes of skin diseases at a cellular level. Dermatopathologist will work in association with dermatologists. In fact, some of them are trained primarily in dermatology themselves.

This one-year fellowship program in Dermatopathology is designed for fellows who are board-eligible or board-certified in either Pathology or Dermatology.

The caseload is comprised of routine cases generated from SAIMS Hospital.

The location of the Dermatopathology Division in the Department of Dermatology affords routine clinical/patient interaction. Pathology-trained fellows will spend time in the SAIMS clinics, including pediatric, surgical, and medical subspecialty clinics. Dermatology-trained fellows will rotate through different pathology subspecialties, including surgical pathology, hematopathology, cytopathology and molecular pathology.

The fellowship is designed to provide graded clinical responsibilities. Research and teaching are an integral part of the fellowship. The fellow will have responsibilities to teach dermatology and pathology residents on a regular basis, and to present at multidisciplinary tumor boards and the Department of Dermatology clinical conferences. The fellow will also participate in clinical and experimental research with potential for interdepartmental collaboration and presentation at national meetings.

Dermatologists are able to recognize most skin diseases based on appearances, anatomic distributions and behavior. Sometimes, however, those criteria do not allow a conclusive diagnosis to be made, and a skin biopsy is taken to be examined under the microscope. Here comes the role of a dermatopathologist who evaluates both the clinical and microscopic features and reveals the histology of the diseases and makes a specific diagnosis, which will be helpful in early diagnosis and treatment.

**Need of the fellowship:**

Dermatology and pathology are the branches of ever expanding medical science. In these branches sub-specialties are growing at a rapid pace. Dermatopathology is one such sub- specialty which has grown enough even in developing countries. There is need of separate fellowship to cater to the needs of dermatologists and pathologists. At present in India, there is no such facility in any of the institutes or universities.

**Aim and objectives:**

At the end of fellowship programme in dermatopathology, fellow should be able

1. To identify basic histopathological reactive patterns of structures/components of the skin.

2. To correlate histopathological findings with clinical features to arrive at correct diagnosis.

**Goal:** The primary goal of the fellowship is the provision of comprehensive training in Dermatopathology as well as training in surgical pathology (for fellows with a dermatology background) or clinical dermatology (for fellows with a pathology background).

**Selection procedure:** Interview of applicant

**Faculty:**

1. Departmental faculty of Pathology and Dermatology.

2. Guest faculty with dermatopathology sub-specialization

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| **TYPE 1**  **Syllabus of fellowship:**  **Model 1 (1st trimester):**  1. Structure of normal skin  2. Definitions in dermatopathology  3. Clinical evaluation of skin disease  4. Skin biopsy – Types and Indications and etc.,  5. Histopathological evaluation of skin disease  6. Stains used in dermatopathology  7. Approach to diagnosis (Clinical examination & Histopathological examination)  8. Clues in Dermatopathology  9. Selection of Project work  **Model 2 (2nd trimester):**  1. Lichenoid tissue reactions  2. Psoriasiform tissue reaction  3. Spongiotic dermatoses  4. Reactive erythemas  5. Bulbous diseases  6. Connective tissue diseases  7. Vacuities  8. Granulomas  9. Pigmentation disorders  10. Emergency in dermatology: Urgency and emergency in dermatology is topic of discussion in the recent advances. Various conditions like Angioinvasive fungal infections, Stevens- Johnson syndrome/toxic epidermal necrolysis, staph-scalded-skin syndrome, acute graft- versus-host disease, bullous pemphigoid, calciphylaxis, Sweet syndrome and its histiocytoid variant, pyoderma gangrenosum, and leukocytoclastic vasculitis etc where there is urgent need of histopathology report for proper management of patient. | **TYPE 2**  The trainee is expected to attain experience, knowledge and competency in all areas of the core skills and core topics.  Supervision by trainers and mentors and satisfactory completion of training shall be dutifully recorded and  certified in the Trainees’ Log Book.  **Core Skills:**  Trainees are expected to:  • Acquire full gamut of clinical dermatopathology work starting with systematic evaluation of skin  biopsies, slide reading skills, making dermatopathology diagnoses, reporting and giving evidence-based  dermatopathology opinions  • Report full range of dermatopathology slides totaling no less than 1000 for the academic year (under supervision and independently)  • Participate in laboratory procedures, frozen sections, Mohs surgery (optional), special stains and techniques,  immunopathology, immunofluorescence, immunohistochemistry, and other molecular diagnostic techniques.  • Be competent in clinical pathology presentations, microbiology, mycology, bacteriology, virology, and electron microscopy  • Able to effectively communicate with clinicians concerning dermatopathology diagnoses  • Participate in hands-on preparation and submission of cases for distance-learning module  • Provide service in hands-on work at home station when not on out-of station modules  • Undertake research projects, teaching, publications and local and national presentations will be required |

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| **Model 3 (3rd trimester):**  1. Appendigeal diseases  2. Panniculitis  3. Genodermatoses  4. Deposition disorders  5. Perforating disorders  6. Histopathology of infections  7. Role of frozen section in dermatology - Frozen section helps in freezing the tissue at -25 degree Celsius and help in section the fresh tissue without any use of formalin. It aids in immunofluorescence study & also plays role in surgical margin clearance & diagnosis of toxic epidermal necrolysis, acute graft-versus-host disease  8. Role of immunofluorescence in dermatology - It aids in diagnosis of vesicobullous lesions.  9. Role of immunohistochemistry in dermatology - Immunohistochemistry plays a very important role in the definitive diagnosis of cutaneous lymphoma, melanoma etc. importance of immunohistochemistry is emphasized, with a focus on potential pitfalls and mimickers in the diagnosis of neoplasms metastatic to skin.  10. Role of electron microscopy in dermatology - Electron microscopy helps in the study of ultrastructure of individual cell of significance. The role of electron microscopy is minimal however, it helps in definitive identification of Langerhan’s cells in Langerhan cell histiocytes etc.  **Model 4 (4th trimester):**  1. Tumours of epidermis  2. Premalignant and malignant tumors of epidermis  3. Appendigeal tumors  4. Connective tissue tumors  5. Melanocytic tumors  6. Cutaneous infiltrative disorders  7. Inflammatory microenvironment in skin tumors. - It deals with study of tumor behavior in different microenvironment which leads to metastasis of tumor.  8. Completion of Research project in dermatopathology | **Core Topics:**  • Histology of the skin  • Pattern of inflammatory disorders  • Spongiotic dermatitis  • Intraepidermal bullous disorders  • Subepidermal bullous disorders  • Immunofluorescence tests  • Interface & lichenoid dermatitis  • Psoriasiform dermatitis  • Superficial, superficial & deep dermatitis  • Vasculitis & vasculopathy  • Granulomatous dermatitis  • Nodular & diffuse infiltrate  • Panniculitis  • Bacterial infection  • Mycobacterial infection  • Fungal infection  • Viral infection  • Deposition disorders  • Sclerosing dermatitis, disorders of  collagen & elastic fibers  • Alopecia, follicular and eccrine disorders  • Introduction to cutaneous neoplasms  • Keratinocytic tumors  • Benign melanocytic tumors  • Melanoma & simulants  • Cysts and metastasis  • Benign eccrine & apocrine tumors  • Benign follicular & sebaceous tumor  • BCC & Malignant appendageal tumors  • Tumors of fat, muscle and bone  • Neural tumors  • Vascular tumors  • Fibrous and fibrohistiocytic tumors  • Cutaneous T cell lymphoma  • Cutaneous B cell lymphoma and leukemia  • Histiocytosis  • Trainees are expected to be able read at least 10 slides of each dermatological condition listed in the core topics. |

**Teaching and learning activities:**

1. Lectures: Will be conducted by pathologists and dermatologists on relevant topics

2. Teaching programmes

* Journal club – Once in 2 week
* Clinico-pathological correlation - Once in a week
* Seminar - Once in a month
* Biopsy review - Once in a week

3. Continued medical education(CME)/ Workshop/Conference

4. Teaching – Undergraduate and Post graduate teaching

5. Presentation of Research project in dermatopathology

**Monitoring of learning process:**

1. **Observation:** This modality is used to assess personal attitudes, day to day work in histopathology section, dermatology outpatient department (OPD’s) and wards.

2. **Checklist:** The performance of candidate in the teaching programme is assessed using checklists. Different model checklists are used for each type of teaching programme. Each parameter in the checklist is graded and marked accordingly.

3. **Log book:** Log book is used to enter day-to-day activities of the fellow.

4. **Feed back:** Feedback from teaching faculty is received to assess the performance of candidate.

**Evaluation of learning process:**

1. Continuous evaluation (Formative):

Schedule – After completion of each module.

* Practical exam: 100 marks
* 10 histopathology slides diagnosis - 50 marks
* Clinico-pathological case discussions – 25 marks
* Special stains – Fite faraco stain, Van Gieson stain, etc – 25 marks
* Viva: 100 marks including problem solving questions
* Internal Assessment : 100 marks
* Log Book : 50 marks

2. Examination Particulars (Summative):

* Schedule: Main examination will be held at the end of one year course
* Practical exam: 100 marks
* 10 histopathology slides diagnosis - 50 marks
* Clinico-pathological case discussions – 25 marks
* Special stains – Fite faraco stain, Van Gieson stain, etc – 25 marks
* Viva: 100 marks including problem solving question