FELLOWSHIP IN CROSS-SECTIONAL IMAGING

ABOUT THE UNIVERSITY

Malla Reddy Vishwavidyapeeth is a reputed educational institution located in Hyderabad, Telangana, India. Recognized as a "Deemed to be University under Distinct (Existing) Category," the university offers multidisciplinary programs across medical, dental, nursing, pharmaceutical sciences, and allied health sciences. The institution emphasizes academic excellence, clinical expertise, innovation, and global collaboration in advancing healthcare education.

PROGRAM OVERVIEW

The Fellowship in Cross-Sectional Imaging is a one-year advanced program designed to develop expertise in CT (Computed Tomography) and MRI (Magnetic Resonance Imaging) for comprehensive diagnostic evaluation across multiple body systems.

The program focuses on:
• CT and MRI imaging principles and protocols
• Cross-sectional imaging of brain, chest, abdomen, pelvis, and musculoskeletal system
• Advanced imaging techniques such as contrast-enhanced imaging, functional MRI, and dual-energy CT
• 3D imaging and multi-planar reconstruction techniques
• Imaging of vascular and oncological conditions
• Image-guided interventional procedures
• Clinical integration and multidisciplinary collaboration

The program integrates clinical exposure, hands-on training, and research to ensure high-level competency in cross-sectional imaging.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

Graduates will be able to:

1. Perform and interpret CT and MRI across various body systems.
2. Apply appropriate imaging protocols for accurate diagnosis.
3. Utilize advanced imaging techniques for complex conditions.
4. Diagnose neurological, thoracic, abdominal, musculoskeletal, and vascular diseases.
5. Perform image-guided procedures safely.
6. Integrate imaging findings into clinical decision-making.
7. Conduct research in cross-sectional imaging.

PROGRAM OUTCOMES (POS)

1. **Imaging Expertise:** Perform and interpret CT and MRI studies.
2. **Protocol Optimization**: Select and apply appropriate imaging protocols.
3. **Diagnostic Accuracy:** Diagnose complex diseases across organ systems.
4. **Advanced Techniques:** Utilize functional imaging, spectroscopy, and 3D imaging.
5. **Interventional Skills:** Perform image-guided procedures.
6. **Clinical Integration:** Support evidence-based patient management.
7. **Research Skills:** Contribute to imaging advancements.

COURSE OUTCOMES (COS)

• CO1: Perform and interpret CT and MRI imaging.
• CO2: Diagnose neurological conditions using cross-sectional imaging.
• CO3: Evaluate thoracic, abdominal, and pelvic pathologies.
• CO4: Perform musculoskeletal imaging and interpretation.
• CO5: Conduct image-guided interventions.

PROGRAM-SPECIFIC OUTCOMES (PSOS)

1. Demonstrate expertise in CT and MRI imaging techniques.
2. Apply advanced imaging methods for diagnostic accuracy.
3. Integrate imaging findings into multidisciplinary clinical care.

PROGRAM DETAILS

• Certificate Awarded by: Malla Reddy Vishwavidyapeeth
• Program Duration: One-Year Fellowship
• Mode of Delivery: Clinical + Theoretical + Hands-on Training

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ELIGIBILITY CRITERIA

• Academic Qualification: MD in Radiology or equivalent
• Professional Requirement: As per institutional norms

KEY FEATURES

• Comprehensive CT and MRI training
• Hands-on exposure to multi-system imaging
• Advanced imaging techniques including functional MRI and dual-energy CT
• Training in oncological and vascular imaging
• Exposure to image-guided procedures
• Strong focus on clinical application and research

LEARNING OUTCOMES

KNOWLEDGE & UNDERSTANDING

• In-depth understanding of cross-sectional anatomy and pathology

COGNITIVE SKILLS

• Advanced diagnostic reasoning and interpretation

PRACTICAL & PROFESSIONAL SKILLS

• Performing CT/MRI scans and interventional procedures

TRANSFERABLE SKILLS

• Multidisciplinary collaboration and communication

SUBJECT-SPECIFIC SKILLS

• Expertise in advanced CT and MRI imaging techniques

CURRICULUM MODULES – THEORY

SEMESTER 1: FUNDAMENTALS OF CROSS-SECTIONAL IMAGING

• Introduction to Cross-Sectional Imaging
• CT Imaging Principles
• MRI Imaging Principles
• Brain Imaging
• Chest Imaging
• Abdomen & Pelvis Imaging
• Clinical Rotations

SEMESTER 2: ADVANCED CROSS-SECTIONAL IMAGING & RESEARCH

- Advanced CT Imaging (Dual-Energy, Multi-phase)
- Advanced MRI Techniques (fMRI, Spectroscopy, DWI)
- Musculoskeletal Imaging
- Vascular Imaging
- Oncology Imaging
- Image-Guided Procedures
- Research Project & Case Studies

PRACTICAL COURSEWORK

- CT imaging of brain, chest, abdomen, pelvis, and MSK
- MRI imaging and advanced sequences
- Image-guided biopsy and drainage procedures
- Case discussions and clinical decision-making
- Clinical logbook maintenance
- Research and dissertation

CAREER OUTCOMES

Graduates can pursue careers as:

- Cross-Sectional Imaging Specialist
- CT/MRI Consultant Radiologist
- Neuro/Thoracic/Abdominal Imaging Specialist
- Onco-Imaging Specialist
- Interventional Radiology Practitioner
- Academic and Research Professional