

THE EDUCATION OF MEDICAL PHYSICIST in Albania

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POLYTECHNIC UNIVERSITY OF TIRANA

ELBASAN WORKSHOP 2016

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LEGISLATION

- Radiation Protection Commission has approved on 2012 a set of criteria for the official recognition of Medical Physicists already working in the hospitals and has strongly supporting the efforts to introduce a university Master degree in Medical Physics using curricula that adopt the recommendations of the specialized international institutions (IAEA, ESTRO, etc.) (6 Medical physicist/year).
- From 1970 to 2014 - Dep. Of Physics, FNS, University of Tirana, was the only education center for the future Medical Physicist.
- FROM 2012, the Faculty of Engineering Mathematics and Physics Engineering is the one in Albania which is preparing MEDICAL PHYSICIST through a MASTER degree, 1.5 year (Bologna system).
- 17 students are graduated as Medical physicist since 2012 in this faculty.
- We are working with the different Institutions to improve the law on certification of these students as medical physicist.

Staff in Radiotherapy

- **Mother Tereza Hospital Tirana**

- Number: 5 Medical Physicists at Oncology Service, only 3 of them are MP

- Experience: from 4-10 years of work (2 new)

- Number: 2 Physicists at Neurosyrgery Service

- Experience: 1 year of work

- **Hygeia Hospital Tirana**

- Number: 2 Medical Physicists

- Experience: 5 years of work

Staff in Nuclear Medicine

- **Mother Tereza Hospital Tirana**

- Number: 1 Medical Physicist & RPO

- Experience: 9 years of work

- **Hygeia Hospital Tirana**

- Number: 2 Medical Physicists

- Experience: 5 years of work

Note: The same medical physicists covers radiotherapy and nuclear medicine;

Staff in Diagnostic/Interventional radiology

- **Mother Tereza Hospital Tirana**

- Number: 1 Medical Physicist&RPO

- Experience: 9 years of work

Note: RPO is covering the QC in diagnostic radiology

Total Number

- **Mother Tereza Hospital Tirana**
 - 9 Physicist only 4 of them are MP
- **Hygeia Hospital Tirana**
 - 2 Medical Physicist
- **American Hospital**
 - 1 Medical Physicist

STRATEGY

- In the **strategy of education and training** which is approved by the government, is stated that the Faculty of Mathematics & Physics Engineering of Polytechnic University in cooperation with Applied Nuclear Physics Institute, Faculty of Natural Sciences and High Commission for Radiation Protection is responsible for the education of new Medical Physicist in Albania (MSc).
- National project for the cycle 2014 – 2015; ALB/6/014-**Enhancing National Safety Infrastructure with an Education and Training Programme in Medical Physics and Radiation Protection and Safety.**
- Provided with the new curricula of Master degree in Medical Physics in line with the recommendations of IAEA (based article 56) and EU.
- The main objective is to improve the curricula and performance of the existing Master Degree.

NEW CURRICULA

MSc:
MEDICAL PHYSICS: 2 YEARS

6 months – 2 year:
Clinical training

AFTER THIS PERIOD:
CERTIFICATION AS MEDICAL PHYSICIST

NEW CURRICULA

Master of Science in “Medical Physics”; (2 years)

First year// first semester

1. Anatomy and physiology: 6 ETCS;
2. Radiobiology + RADIATION PHYSICS: 6 ETCS;
3. Radioprotection: 6 ETCS;
4. Dosimetry: 9 ETCS (radiation dosimetry + Physics of radiation oncology);
5. Scientific Research: 3 ETCS;

First year// second semester

1. Physics of Nuclear medicine + radiopharmaceuticals: 7 ETCS;
2. Introduction to Medical Imaging: 6 ETCS;
3. Non ionization radiation Physics: 5 ETCS;
4. Physics of Diagnostics and IR: 6 ETCS;
5. Optional course/module: 6 ETCS;

Second year// first semester

1. Advanced mathematics methods: 3 ETCS;
2. Physics of Radiation therapy: 9 ETCS;
- 3. Clinical Practice and Research : 18 ETCS;**

Second year// second semester

1. Thesis: 30 ETCS;

ORIENTATION

1. RADIO THERAPY

2. NUCLEAR MEDICINE

3. IMAGING PHYSICS

Collaboration

- High Radiation Protection Commission;
- Hygea Hospital of Tirana;
- “Mother Tereza” Hospital of Tirana;
- Albanian Association of Medical Physicist;
- Institute of Applicable Nuclear Physics of Albania;
- IAEA;

Radiotherapy Infrastructure

- **Mother Tereza Hospital Tirana (State Institution)**

- 2 Cobalt Machine
- 1 Braktherapy Machine
- 1 Orthovoltage Machine

Oncology Service

- 2 Linear Accelerator 6 MV, 7 MV }

Neurosurgery Service
+Oncology

- **Hygeia Hospital Tirana (Private Institution)**

- 2 Linear Accelerator 6 MV, 18 MV

Nuclear Medicine

- **Mother Tereza Hospital Tirana**
 - 1 Gamma Camera and 1 thyroid scan
 - 2 Iodine rooms for therapy treatment



Nuclear Medicine

- **American Hospital**
 - 1 Gamma Camera
 - 1 Iodine room for I-131
- **Medicare**
 - 1 Gamma Camera
- **Hygeia Hospital Tirana**
 - 1 Gamma Camera
 - 2 Iodine rooms for I-131

Diagnostic/Interventional radiology

- **Mother Tereza Hospital Tirana**

- 7 Ct, 1 mammography , 11 RF, 2 flouroscopy ,

- **4 Interventional radiology**

- **American Hospital**

- 1CT, 1 mammography, 1 RF, 1**Interventional radiology**

- **German Hospital**

- 1CT, 1 mammography, 1 RF, 1**Interventional radiology**

- **Hygeia Hospital Tirana**

- 1CT, 1 mammography , 1 RF, 1 **Interventional radiology**

Note: These devices are only four major centers but have a greater number of diagnostic Equipment in Albania

THANK YOU