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Internship positions list - QUALIM 2011

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1 Contents

- 1 Contents 2
- 2 General 3
 - 2.1 Introduction..... 3
- 3 Subjects 3
 - 3.1 PET/CT metabolic imaging in prostate cancer..... 3
 - 3.1.1 Introduction and subject 3
 - 3.1.2 Key objectives for this position 3
 - 3.1.3 Key skills required for this position 3
 - 3.1.4 Requirements 3
 - 3.2 Swiss-QC (Web application) 4
 - 3.2.1 Introduction and subject 4
 - 3.2.2 Key objectives for this position 4
 - 3.2.3 Key skills required for this position 4
 - 3.2.4 Requirements 4
 - 3.3 Swiss-QC (iPhone application)..... 5
 - 3.3.1 Introduction and subject 5
 - 3.3.2 Key objectives for this position 5
 - 3.3.3 Key skills required for this position 5
 - 3.3.4 Requirements 5
 - 3.4 PET/CT Xcal..... 6
 - 3.4.1 Introduction and subject 6
 - 3.4.2 Key objectives for this position 6
 - 3.4.3 Key skills required for this position 6
 - 3.4.4 Requirements 6

2 General

2.1 Introduction

This document is a list of all the 2011 open internship positions provided by QUALIM.

3 Subjects

3.1 PET/CT metabolic imaging in prostate cancer

3.1.1 Introduction and subject

Having more than 15 years experience in clinical protocol on oncological PET imaging, we have focused on the prostate cancer and its staging using F-18 choline PET. A specific protocol was developed and includes injected CT followed by a dynamic 3-points PET/CT acquisition. A dedicated quality control protocol was developed in order to monitor exam's quality. The purpose of the study is to validate this quality control protocol and inter-subject variability of the PET scans.

3.1.2 Key objectives for this position

- To conduct scientific researches.
- To validate / to optimize a proposed QC protocol.
- To produce a paper and submit it to a scientific journal.

3.1.3 Key skills required for this position

- Flexibility and valuable autonomy.
- Scientific rigor.
- Results driven work.
- Proactive with MS office tools (excel, word) or equivalent.
- Basics in biostatistics.
- Efficient reporting capabilities.
- Capabilities to efficiently interact with medical professionals.
- Sufficient biomedical knowledge (basics of PET/CT imaging is an asset).
- Ability to learn in state of the art scientific topics.
- Professional English skills highly preferred

3.1.4 Requirements

- 4 months are a minimum duration for this position
- On-going M.Sc degree, or equivalent level

3.2 Swiss-QC (Web application)

3.2.1 Introduction and subject

A computerized system called Swiss-QC has been developed to assess quality control of DXA measurements applying Shewhart rules and CUSUM algorithm. Swiss-QC is the Swiss national tool recommended by the Swiss Association against Osteoporosis (ASCO). The purpose of this work is to implement new functionalities/optimizations and to implement a new visual identity matching with QUALIM's recent communication and marketing pipeline.

3.2.2 Key objectives for this position

- To implement a new visual identity (based on QUALIM's communication and marketing recent developments).
- To implement new functionalities.
- Script optimization.
- To develop web 2.0 services on Swiss-QC.
- To validate new version of Swiss-QC

3.2.3 Key skills required for this position

- Flexibility and valuable autonomy.
- Scientific rigor.
- Results driven work.
- Efficient with MS web programming .NET environment.
- Proactive with Merise/UML.
- JavaScript basics.
- Fluent with at least one database solution (SQL)
- Ability to implement/understand basic scientific algorithms.
- Efficient reporting capabilities.
- Capabilities to efficiently interact with medical professionals.
- Basic biomedical knowledge.
- Ability to learn.
- M-Files API basics are an asset.
- Professional English skills highly preferred

3.2.4 Requirements

- 3-4 months are a minimum duration for this position
- On-going M.Sc degree or equivalent level, IT/programming specialty preferred

3.3 Swiss-QC (iPhone application)

3.3.1 Introduction and subject

A computerized system called Swiss-QC has been developed to assess quality control of DXA measurements applying Shewhart rules and CUSUM algorithm. Swiss-QC is the Swiss national tool recommended by the Swiss Association against Osteoporosis (ASCO). Currently, Swiss-QC is only available thru a web platform. The purpose of this work is to implement and validate an iPhone application with restricted features (mainly consulting features should be implemented).

3.3.2 Key objectives for this position

- To develop a new iPhone app. (based on an existing web application)
- To validate the application.
- To submit a first version of this application on the Apple App. Store

3.3.3 Key skills required for this position

- Flexibility and valuable autonomy.
- Scientific rigor.
- Results driven work.
- Good knowledge of Apple technologies.
- Fluent with Apple Objective-C or alternative solution.
- Ability to implement/understand basic scientific algorithms.
- Efficient reporting capabilities.
- Capabilities to efficiently interact with medical professionals.
- Basic biomedical knowledge is an asset.
- Ability to learn.
- M-Files API basics are an asset.
- Professional English skills highly preferred

3.3.4 Requirements

- 3-4 months are a minimum duration for this position
- On-going M.Sc degree or equivalent level, IT/programming specialty preferred

3.4 PET/CT Xcal

3.4.1 Introduction and subject

Having more than 15 years experience in clinical protocol on oncological PET imaging, we developed a new longitudinal QC protocol in order to assess the long term apparatus variability. This protocol has been extended for cross-calibration corrections, especially designed for multicentric clinical trials. The purpose of the study is to finalize this QC and Xcal protocol and to publish a scientific paper.

3.4.2 Key objectives for this position

- To conduct scientific researches.
- To validate / to optimize a started work.
- To produce a paper and submit it to a scientific journal.

3.4.3 Key skills required for this position

- Flexibility and valuable autonomy.
- Scientific rigor.
- Results driven work.
- Proactive with MS office tools (excel, word) or equivalent.
- Basics in biostatistics.
- Efficient reporting capabilities.
- Capabilities to efficiently interact with medical professionals.
- Sufficient biomedical knowledge (basics of PET/CT imaging is an asset).
- Ability to learn in state of the art scientific topics.
- Professional English skills highly preferred

3.4.4 Requirements

- 3-4 months are a minimum duration for this position
- On-going M.Sc degree or equivalent level.