Discipline MCP5859  
Imaging Methods In Cardiovascular Scientific Research

**Concentration area:** 5131

**Creation:** 16/05/2019

**Activation:** 16/05/2019

**Credits:** 2

**Workload:**

<table>
<thead>
<tr>
<th>Theory (weekly)</th>
<th>Practice (weekly)</th>
<th>Study (weekly)</th>
<th>Duration</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9</td>
<td>12</td>
<td>1 weeks</td>
<td>30 hours</td>
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</tbody>
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**Professors:**

Roberto Kalil Filho

Carlos Eduardo Rochitte

Pedro Alves Lemos Neto

**Objectives:**

OBJECTIVE: - To contribute to the training of researchers in the field of the use of imaging methods for the study of cardiovascular diseases; - Understand the concepts and applications of the main research methods in the area: Magnetic Resonance, Spectroscopy, Angiography of coronary, cardiac PET, perfusion scintigraphy, endovascular image (OCT, ultrasonography), coronary flow; - To know, discuss, analyze and elaborate potential applications and investigations involving new resources and imaging methods for the study of cardiovascular diseases.

**Rationale:**

RATIONALE: In the last decades, imaging methods have revolutionized diagnostic research and treatment in all areas of medicine. In the field of cardiovascular diseases, this development took place in a more remarkable way, with the participation of the imaging methodology in most of the outcomes of the main clinical studies, which has been tracing the modern guidelines for the treatment of these diseases. The rapid evolution of imaging techniques and their increasing application in scientific research has generated an important demand by researchers able to generate new knowledge, methods, devices (including patents) and applications, from the information obtained by the imaging methods used in the study of diseases cardiovascular diseases. There is a lack of training courses for this type of researcher.

**Content:**

CONTENT: - Choice and interpretation of variables and outcomes in studies involving Magnetic Nuclear Resonance (NMR) - Selection and interpretation of variables and outcomes in studies involving coronary angiotomography - Choice and interpretation of variables and outcomes in studies involving spectroscopy - Choice and interpretation of variables and outcomes in studies involving endovascular imaging (OCT, ultrasonography, coronary flow) -
Selection and interpretation of variables and outcomes in studies involving cardiac PET - New technologies and new methods in the study of atherothrombogenesis.

Type of Assessment:

See observation field

Notes/Remarks:

EVALUATION: - Frequency, use and participation during classes and discussions (responsible teachers encourage and are present in all classes) - Written test - Realization of a research project including bibliographic review on the topic. NOTE: Minimum number of students: Three Maximum number of students: Twenty

Bibliography:


