

# 15th APEC Cross Mentoring Research Activity

## Research Syllabus

### I. Mentor

#### 1. Personal Information

Name	Jubert Marquez
Mobile Number	01057453004
School or Institute	Cardiovascular and Metabolic Disease Center, Paik Hospital, Inje University
E-mail	<a href="mailto:jcuevas.marquez@gmail.com">jcuevas.marquez@gmail.com</a>
Major	<i>Doctor of Philosophy, Medicine</i>

#### 2. Education

	Year	Name of University	Major	Degree	Nation
Bachelor's degree	2012	University of the Philippines-Manila	Biology	BS	Philippines
Master's degree	2016	Inje University	Tissue Engineering	ME	South Korea
Doctorate degree	2020	Inje University	Medicine	Ph.D.	South Korea
Dissertation	Phosphorylation of mitochondrial creatine kinase and malate dehydrogenase protects cardiomyocytes against hypoxia/reoxygenation injury				

#### 3. Experiences

Duration	Position	Institute or University
March 2021- Present	Associate Professorial Lecturer I	Department of Biology, College of Science, De La Salle University, Manila
September 2020-Present	Post-doctoral Researcher	Basic Research Laboratory for Mitochondrial Signaling, Cardiovascular and Metabolic Disease Center, Paik Hospital, Inje University, Busan
March 2014 - August 2020	Research Assistant (M.S. and Ph.D.)	Basic Research Laboratory for Mitochondrial Signaling, Cardiovascular and

		Metabolic Disease Center, Paik Hospital, Inje University, Busan
September 2012 - February 2014	Research Assistant (M.S.)	Tissue and Biomedical Engineering Laboratory, Inje University, Gimhae

#### 4. Professional Societies

- **Korean Society for Biochemistry and Molecular Biology (KSBMB)**
  - Regular member
  
- **Korean Society for Mitochondrial Research and Medicine (KSMRM)**
  - Regular member
  
- **Pinoy Iskolars sa Korea (PIKO), Filipino Scholars in Korea**
  - President (2020-2021)
  - Vice President (2019-2020)
  - Regional Representative for Busan (2016-2019)

## II. Syllabus

### 1. Course Objectives & Description

- At the end of the course, students of *The Cellular and Molecular Basis of Cardiovascular Disease* will have a deeper knowledge of the basics of pre-clinical and translational cardiovascular research and cellular and molecular mechanisms driving the progression of cardiovascular disease and heart failure. The students are also expected to learn the upcoming and advanced techniques employed in research and the importance of natural products and their applications in cardiovascular disease.
- Students are expected to do two main presentations for their reports. The mid-term report will be a seminar-style journal club presentation about a pre-selected topic discussed with the mentor regarding cardiovascular diseases. In the final report, the students will be presenting their results a) similar to a thesis-style defense (in the case of a research article) or b) a seminar-style presentation (in the case of a professional critique or review of a topic).

### 2. Required Textbook or papers:

- Textbook and journal articles to be furnished by the mentor

### 3. Final Outcome

Mid-term Report	[o] Due date: Week 6
Final Report	[o] Due date: Week 12

### 4. Schedule

Week	Date	Topics and Activities	Assignments & Other Instructions
Week 1	<i>Exact dates to be determined once schedule is finalized</i>	Introduction to The Cellular and Molecular Basis of Cardiovascular Disease	
Week 2		Translational Research in Cardiovascular Repair	
Week 3		Animal Models of Cardiovascular Disease	
Week 4		<i>In vitro, In Vivo, and Ex Vivo</i> Experimental Assessment of Cardiac Function	
Week 5		Background on Common Wet Lab Techniques Employed in Translational Research	
Week 6		Journal Club: Seminar Presentation by Mentee on a Pre-selected Paper Related to Cardiovascular Disease or Translational Research	Mentee PPT Presentation, Discussion
Week 7		Advanced and Upcoming Cellular and Molecular Technologies and Techniques	
Week 8		Natural Products and Compounds Used in Pre-Clinical Cardiovascular Disease Research	
Week 9		Scientific Writing for Effective Communication and Dissemination of Data and Results	
Week 10		Research or review article proposal and Discussion	Mentee PPT Presentation, Discussion
Week 11		Research Article Writing	
Week 12		Research Article Writing	Final report
Mentees should submit their research article to the AMGS admin team and mentor.			