

AMGS Cross Mentoring Research Activity 2020-2021

- Research Syllabus

I . Mentor

1. Personal Information

Name	Yeong L. Ha, Ph.D.
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Major	Applied biochemistry

2. Education

	Year	Name of University	Major	Degree	Nation
Bachelor's degree	1973	Gyeongsang National University	Agricultural Chemistry	B.S.	Rep. of Korea
Master's degree	1979	Graduate School, Gyeongsang National University	Food Science	M.S.	Rep. of Korea
Doctorate	1986	Graduate School, University of Minnesota-Twin city	Nutritional Biochemistry	Ph.D.	USA
Dissertation	Alpha-tocopherol oxidation mediated by superoxide anion.				

3. Experiences

Duration	Position	Institute or University
1975-1978	Researcher	National Institute of Agricultural Science, Rep. of Korea
1978-1980	Researcher	Korea Tobacco & Ginseng, Rep. of Korea
1985-1991	Post-Doctor Fellow in Toxicology	University of Wisconsin-Madison, USA

1991-2016	Assistant ~ Professor in Biochemistry	Gyeongsang National University, Rep. of Korea
2003-2005	Chief evaluator in functional foods	Korea Institute of Planning & Evaluation for Technology in Food, Agriculture and Forestry
2005-2007	Vice President in Research	Gyeongsang National University
2010-2011	Advisory member	Presidential Advisory Council on Science & Technology, Rep. of Korea
2016 to date	Director	HK Antiaging Institute, Rep. of Korea
2016 to date	Emeritus Professor	Div. of Applied Life Science, Gyeongsang National University

4. Honors and Awards

Year	Title	Remarks
1979	Outstanding Research Award	Korea Tobacco & Ginseng
2001	Best Researcher Citation	Ministry of Sci. and ICT, Rep. of Korea
2002	Best Research Award	Korean Society of Food Science and Nutrition Rep. of Korea
2005	Best Research Award	Ministry of Agriculture, Food and Rural Affairs Rep. of Korea
2009	Outstanding Research Award in Science & Technology	Gyeongnam Province, Rep. of Korea
2016	Presidential Citation	President, Rep. of Korea

5. Professional Societies

-1985-2016: Member, Institute of Food Technologist, USA.

-1985-2015: Member, American Chemical Society, USA.

-1987-2005: Member, American Oil Chemical Society, USA.

-2000-present: Vice President, Gyeongnam Branch, Korean Federation of Science and
Technology Society.

- 2002-2003: Vice President, Korean Society of Food Science and Nutrition
Rep. of Korea.
- 2004-2006: Editor, e-CAM (SCI), USA.
- 2003-present: Advisory Committee Member, Korean Federation of Science and
Technology Society (KFSTS).
- 2008-2009: President, Korean Society of Life Science.

II. Syllabus

1. Course Title & Criteria

Course Title	Vitamin D and Health Influence
Criteria	<input type="checkbox"/> Biology & Applied Biology
	<input type="checkbox"/> Chemistry
	<input type="checkbox"/> Energy & Environmental Science
	<input type="checkbox"/> Integrated Science
	<input checked="" type="checkbox"/> Medicinal Science (Nutritional Biochemistry)
	<input type="checkbox"/> Nano Science
	<input type="checkbox"/> Physics
	<input type="checkbox"/> Others

2. Course Objectives & Description

This course is designed to encourage high school students to evoke curiosities about vitamin D for maintenance of human health conditions. Currently, vitamin D studies are equally important to other medicinal fields of studies in science as it focus on the clinical use. There is a lot of research papers showing that vitamin D plays a role in preventing or treating infections of COVID-19.

The course will provide basic knowledge on vitamin D study and also provide avenue to help encourage young mentees to understand the importance of vitamin D as a medicine. At the end of the course, the mentee will be able to accomplish the follows:

- Develop skills in creating a good question and on the research process in general.
- Develop abilities to evoke scientific curiosities about vitamin D and other medicines.
- Conduct a proposed study.
- Write a scientific paper/report.

3. Required Textbook or papers:

- The Vitamin D Solution. Michael F. Holick, Ph.D., M.D., Penguin Publishing Group (2010)
- Reading assignments and research papers posted.

4. Final Outcome

Mid-term Report	[] Due date:
Final Report	[] Due date:
Research Article for APEC Youth Scientist Journal	[√] Due date: April 30, 2021.

5. Schedule

Week	Topics and Activities	Assignments & Other Instructions
1~2	<p>Introduce each other and explain the curriculum Introduction to the course -Why do humans require vitamins, especially, vitamin D? -Submit any questions related to the assignment to me via e-mail.</p>	-Reading Assignment 1
3	<p>Biological synthesis of vitamin D in skin -Submit any questions related to the assignment to me via e-mail.</p>	-On line discussion for the questions -Read the assignment 2 and <u>a related research paper provided.</u>
4	<p>Vitamin D metabolism in human body -Submit any questions related to the assignment to me via e-mail. [Research paper analysis that read previous week]</p>	-On line discussion for the questions. -Read the assignment 3.
5	<p>Biological functions and mechanistic actions of vitamin D -Submit any questions related to the assignment to me via e-mail.</p>	-On line discussion for the questions -Read the assignment 4 and <u>a related research paper provided.</u>
6	<p>Human requirement of vitamin D and K2. -Submit any questions related to the assignment to me via e-mail. [Quiz I]</p>	-On line discussion for the questions -Read the assignment 5 and <u>a related research paper provided.</u>

7	<p>Measurement of vitamin D metabolites -Submit any questions related to the assignment to me via e-mail. [Research paper analysis that read previous week]</p>	<p>-On line discussion for the questions. -Read the assignment 6.</p>
8	<p>Treatment of calcium and phosphorus disorder with vitamin D -Submit any questions related to the assignment to me via e-mail.</p>	<p>-On line discussion for the questions -Read the assignment 7.</p>
9	<p>Other health consequence of vitamin D deficiency -Submit any questions related to the assignment to me via e-mail. [Quiz II]</p>	<p>-On line discussion for the questions. -Read the assignment 8 and <u>a related research paper provided.</u></p>
10	<p>Dose vitamin D effect on the activity of COVID-19 in human?</p>	<p>Read assignment 8</p>
11	<p>Guide mentees to write research article for APEC Youth Scientist Journal</p>	<p>Daily report of activity</p>
12-13	<p>Guide mentees to write research article for APEC Youth Scientist Journal</p>	<p>Daily report of activity</p>
14	<p>Submission and report of final article</p>	<p>On line defense of the research article</p>
15	<p>Mentees should submit their research articles to AMGS admin team</p>	