

APEC Cross Mentoring Research Activity 2020-2021

Research Syllabus

I . Mentor

1. Personal Information

Name	Daehwan Park
Mobile Number	+82-10-4786-0391
School or Institute	Chungbuk National University, Republic of Korea
E-mail	Daehwan.Park@cbnu.ac.kr
Major	Department of Engineering Chemistry

2. Education

	Year	Name of University	Major	Degree	Nation
Bachelor's degree	2007	Yonsei University	Chemical Engineering	BS	Korea
Master's degree	-	-	-	-	-
Doctorate	2013	Yonsei University	Chemical and Biomolecular Engineering	PhD	Korea
Dissertation	DNA Core@Nano Shell Hybrid Convergence System				

3. Experiences

Duration	Position	Institute or University
Sep 2013 – Jan 2016	Postdoctoral Research Fellow	Center for Intelligent Nano-Bio Materials (CINBM), Department of Chemistry and Nano Science, Ewha Womans University, Republic of Korea
Jan 2016 – Aug 2017	Postdoctoral Research Associate	Future Industries Institute, University of South Australia, South Australia, Australia

Aug 2017 – Mar 2018	Lecturer	Global Innovative Center for Advanced Nanomaterials, The University of Newcastle, Australia
Apr 2018 – Aug 2020	Assistant Professor	Department of Nano Materials Science and Engineering, Kyungnam University
Sep 2020 – Current	Assistant Professor	Department of Engineering Chemistry, College of Engineering, Chungbuk National University

4. Honors and Awards

Year	Title	Remarks
Oct 2013	The Best Ph. D. Grand Prize Winner	The Korean Chemical Society (KCS)
Jun 2015	National Young Scientist in the Division of Chemistry	65th Lindau Nobel Laureate Meeting (Interdisciplinary: Chemistry, Physics, Physiology/Medicine), Lindau, Germany
Nov 2019	Rising Young Scientist	The Korean Ceramic Society

5. Professional Societies

Mar 2007-till	Member	The Korean Chemical Society
Sep 2012-till	Foundation Member, Director of Academic Affairs, and General Secretary	The Korean Clay Science Society
Jan 2016-Dec 2017	Editorial Board Member	Division of Applied and Industrial Mineralogy, Journal of the Mineralogical Society of Korea
Jan 2019-till	A steering committee	The Korean Ceramic Society
Jan 2019-till	A steering committee	The Korean Carbon Society
Jan 2020-till	A steering committee	The Korean Hydrogen and New Energy Society
Jan 2020-till	Editorial Board Member	Journal of The Korean Ceramic Society

II . Syllabus

1. Course Title & Criteria

Course Title	Nanochemistry and Nanomaterials for Biomedical Science
Criteria	<input type="checkbox"/> Biology & Applied Biology
	<input type="checkbox"/> Chemistry
	<input type="checkbox"/> Energy & Environmental Science
	<input type="checkbox"/> Integrated Science
	<input type="checkbox"/> Medicinal Science
	<input type="checkbox"/> Nano Science
	<input type="checkbox"/> Physics
	<input type="checkbox"/> Others

2. Course Objectives & Description

The goal of this course is to provide students with knowledge regarding **'Nanomedicine'** which is a branch of medicine that applies the knowledge and tools of nanotechnology to the prevention and treatment of disease.

3. Required Textbook or papers: Required Textbook or papers will be provided.

4. Final Outcome

Quiz	<input type="checkbox"/> Due date:
Research plan	<input type="checkbox"/> Due date:
Final Report	<input checked="" type="checkbox"/> Due date: May31 2021
Research Article for APEC Youth Scientist Journal	<input type="checkbox"/> Due date:

5. Curriculum

Week	Topics and Activities	Assignments & Other Instructions
Week 1	Introduction to course	
Week 2	Review on Nanoscience and Nanotechnology	

Week 3	Nanomedicine for Biomedical Science	
Week 4	Drug Delivery System	
Week 5	Imaging System	
Week 6	Biosensor	
Week 7	Case Study I	
Week 8	Case Study II	
Week 9	Case Study III	
Week 10	Guide mentees to write Final Report	
Week 11	Final Report Writing	
Week 12	Final Report Writing	