

15th APEC Cross Mentoring Research Activity

Research Syllabus

I . Mentor

1. Personal Information

Name	Wenyi Li
Mobile Number	+61 416180016
School or Institute	La Trobe University, Australia
E-mail	wenyi.li@latrobe.edu.au
Major	Chemical Biology

2. Education

	Year	Name of University	Major	Degree	Nation
Bachelor's degree	2009	Lanzhou University	Science	Bachelor of Science	China
Master's degree	2012	Lanzhou University	Organic Chemistry	Master of Science	China
Doctorate	2017	The University of Melbourne	Chemical Biology	Doctor of Philosophy	Australia
Dissertation	Enhancing the Activity of the Proline-rich Antimicrobial Peptide, Chex1-Arg20, by Chemical Multimerization				

3. Experiences

Duration	Position	Institute or University
02/2023 to date	Lecturer	La Trobe University, Australia
11/2018 - 01/2023	Research Fellow	The University of Melbourne, Australia
10/2016 - 09/2018	Leibniz-DAAD Research Fellow	Leibniz Institute for Molecular Pharmacology, Germany

4. Honors and Awards

Year	Title	Remarks
2023	Young Peptide Scientist Award Peptide Society	From Chinese Peptide Society
2022	VESKI Victoria Fellow in the Physical Sciences category	From Victoria Government, Australia
2020	Australian Dental Industry Association Award	
2020	Young Investigator Award	At International Symposium on antibiotic resistance and drug development
2017	Monica Reum Memorial Prize	University of Melbourne
2017	Graham Johnston Best Thesis Award,	Royal Australian Chemical Institute, Australia

5. Professional Societies

- Member of Royal Australian Chemical Institute (2014-)
- Member of Royal Society of Chemistry (2017-),
- Member of American Chemical Society (2019-),
- Member of British Society for Antimicrobial Chemotherapy (2019-),
- Member of International Chemical Biology Society (2022-)
- Member of Australian Society for Antimicrobials (2023-)

II. Syllabus

1. Course Title & Criteria

Course Title	Peptide Bioconjugation in Chemical Biology for drug discovery
Criteria	<input type="checkbox"/> Biology & Applied Biology
	<input checked="" 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

This topic aligns closely with the research direction of the mentor. It involves studying the fields of chemical biology, peptide chemistry, and bioactive peptides to guide students in summarizing relevant research. Through communication with the mentor and learning, students gain an understanding of and familiarity with the field of chemical biology, clarifying their future career direction.

This mentoring content focuses on introducing relevant research topics, analyzing published papers, and guiding students to learn some theoretical and practical aspects of chemical biology, enabling them to gain preliminary knowledge of research on bioactive peptide and understand the bioconjugation chemistry.

3. Required Textbook or papers:

Textbook and journal articles to be furnished by the mentor.

4. Final Outcome

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

5. Schedule

Week	Topics and Activities	Assignments & Other Instructions
Week 1	Introduction to Chemical Biology	
Week 2	Peptides and Proteins	
Week 3	Peptide synthesis	
Week 4	Chemical Biology of Peptides	
Week 5	bioconjugation chemistry	
Week 6	Journal Club: Seminar Presentation by Mentee on a Pre-selected Paper Related to peptides in chemical biology	Mentee PPT Presentation, Discussion
Week 7	Native chemical ligation & protein chemical synthesis	
Week 8	Organic catalyst application in peptide modification	
Week 9	Research or review article proposal and Discussion	Mentee PPT Presentation, Discussion
Week 10	Research Article Planning and Writing	
Week 11	Research Article Writing	
Week 12	Research Article Writing	Final report
Mentee should submit their research article or report to AMGS admin team and mentor.		