



**MINISTRY OF EDUCATION
FEDERAL RURAL UNIVERSITY OF PERNAMBUCO
PROVOST OF RESEARCH**

I – IDENTIFICATION		
COURSE: Bacteriophage therapy in aquaculture: current status and future challenges	CODE:	
DEPARTMENT/ACADEMIC UNIT: DEPAq/UFRPE Headquarters		
GRADUATE COURSE: Fisheries and Aquaculture Resources	CLASS:	SHIFT: MORNING
NATURE: () MANDATORY (X) ELECTIVE		
ACADEMIC PERIOD OF THE COURSE: 2024.1		
TOTAL WORKLOAD: 15 hours	THEORETICAL: 15 hours	PRACTICAL: 0 hours
FORMAT: (X) IN-PERSON () IN-PERSON/REMOTE () REMOTE		
PROFESSORS Indicate with (*) the instructor responsible for filling out the Electronic Diary or for completing assessments on SIGA/SIGAA		WORKLOAD
Eduardo Quiroz Guzmán		15

II – SYLLABUS (Content Synopsis)
Investigated whether a <i>Vibrio</i> -free source of microalgae could be ensured through the application of specific vibriophages for <i>Vibrio</i> sp. This is because cultivated microalgae are the primary vector for <i>Vibrio</i> spp. infection in larval cultures.

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| III – OBJETCTIVES |
| <ul style="list-style-type: none"> ● Provide information on the status and potential use of bacteriophages (vibriophages) during the production of microalgae of aquacultural importance ● Provide knowledge on the biological control of <i>Vibrio</i> sp. in microalgae cultivation to enhance nutrient bioavailability in aquaculture |

IV – PROGRAM CONTENT

(Indicate the subjects to be covered in the course)

1. Ecological importance of bacteriophages in aquaculture
2. Isolation and characterization of bacteriophage
3. Use of bacteriophage in aquaculture
4. Use of bacteriophages to control *Vibrio* contamination of microalgae
5. Phages biocontrol and bioremediation in aquaculture
6. Bacteriophage in the industry

V – TEACHING METHODS

- Video lecture (Google Meet)
- Directed reading
- Directed study
- Seminar
- Handouts
- Exercises

VI – REMOTE TEACHING PLATFORM

- Virtual Learning Environment (AVA Moodle / UFRPE)
- Google Classroom
- Professor's website
- Dropbox
- Others: _____

VII – EVALUATION CRITERIA

Evaluation of seminars and participation in the classroom. The evaluation procedures adopted will be continuous assessment through the presentation of reports and seminars on specific topics.

VIII – SCHEDULE	
DAYS	DETAILS
1 DATE: 12/05/24 (M.)	CONTENT COVERED: METHODOLOGY: LOCATION: Classroom of PPG-RPAq (DEPAq) EVALUATIVE PRACTICES: In-class discussion
1 DATE: 12/05/24 (T.)	CONTENT COVERED: METHODOLOGY: LOCATION: Classroom of PPG-RPAq (DEPAq) EVALUATIVE PRACTICES: In-class discussion
2 DATE: 13/05/24 (M.)	CONTENT COVERED: METHODOLOGY: LOCATION: Classroom of PPG-RPAq (DEPAq) EVALUATIVE PRACTICES: In-class discussion
3 DATE: 13/05/24 (T.)	CONTENT COVERED: METHODOLOGY: LOCATION: Classroom of PPG-RPAq (DEPAq) EVALUATIVE PRACTICES: In-class discussion

IX – BIBLIOGRAPHY
<p>BASIC: Cisek, A.A., Dąbrowska, I., Gregorczyk, K.P. y Wyżewski, Z. (2017). Phage therapy in bacterial infections treatment: one hundred years after the discovery of bacteriophages. <i>Current Microbiology</i>, 74: 277-283. doi: 10.1007/s00284-016-1166-x</p> <p>Ramos-Vivas J, Superio J, Galindo-Villegas J, Acosta F. Phage Therapy as a Focused Management Strategy in Aquaculture. <i>Int J Mol Sci</i>. 2021 Sep 28;22(19):10436. doi: 10.3390/ijms221910436. PMID: 34638776; PMCID: PMC8508683.</p> <p>B. Madhusudana Rao, K.V. Lalitha. 2015. Bacteriophages for aquaculture: Are they beneficial or inimical. <i>Aquaculture</i>. 437 146-154</p>

I AM AWARE that recorded synchronous interactions constitute strictly educational material and are not allowed to be used (in full or in part) for purposes other than this. I commit to respecting the image rights of the students in recordings of synchronous activities, questioning them about the authorization for recording, and advising those who object to keep their cameras and microphones turned off during the recording.

México,

2024.



Professor Eduardo Quiroz Guzmán