

Supervisor's reference to the PhD thesis of Mr Jose Romel Malapascua, submitted for defence at the Faculty of Science, University of South Bohemia in České Budějovice

Mr Jose Romel Malapascua started his PhD programme in Biophysics in 2011 at the Institute of Physical Biology in Nové Hradky, now administered by the Faculty of Science. He has come to follow his long-term interest in microalgae biotechnology. Lately, he has submitted his PhD thesis entitled 'Photosynthesis Monitoring in Microalgae Mass Cultures'. This thesis is a result of cooperation among the Faculty of Science USB, Centre ALGATECH Třeboň, and few other institutions – University of Málaga in Spain, Institute of Ecosystem Study CNR in Sesto Fiorentino, Italy and Ecoduna AG in Bruck an der Leitha, Austria.

The general objective of this thesis was to study changes of physiology and photosynthetic activity in microalgae mass cultures and their interplay with growth (and productivity) in order to find suitable cultivation conditions. The thesis consists of four parts – principles of microalgae culturing, cultivation systems, photosynthesis monitoring and growth under unfavourable conditions – covering the topics in which the applicant carried out his PhD research. The research is illustrated by case studies that show results published by the applicant and his collaborators.

While working on his PhD, Mr. Malapascua could built up on the experience and knowledge of physiology, photosynthesis and cultivation of microalgae gained in previous employments in USA, Israel, Taiwan and the Philippines. In the course of his study, I have seen significant progress of the applicant in scientific knowledge as it is demonstrated by his research papers.

During his study, we have run enormous number of laboratory and field experiments where I could witness his scientific and practical skills and also the will to find solution of problems. We worked together within several R&D projects supported by grants from the Czech Ministry of Education, Youth and Sports, Czech Science Foundation, Grant Agency of the University of South Bohemia, and Bilateral Scientific Agreement between AVČR and CNR Italy. Finally, the outcome of PhD study of Mr. Malapascua represent ten papers and few more are still in progress. He also presented several posters and oral contributions at international and national conferences.

If I judge Jose Malapascua as a person, he is friendly character, easy to work with. We have carried out experiments with several groups abroad and he was always good team player. I appreciate his enormous modesty, politeness and good knowledge of English as well as practical approach to any problem. His current engagement as technical advisor in R&D Division of Chitose Laboratory Corp (Japan) in Malaysia gives him an opportunity to use all the knowledge of microalgae biotechnology acquired during his study. I am glad that our University prepared him quite well and the PhD degree will help to support his further professional career.

In my opinion Jose Malapascua has fulfilled all his duties as PhD student and demonstrated all skills and knowledge necessary to obtain his PhD degree. The final step, the presented dissertation is of good quality and as the supervisor I recommend it for the defence.



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In Třeboň 29th August 2018