

**Faculty** of Science

**Department** of Molecular Biotechnology and Bioinformatics

**Curriculum Title**

Ph.D. (Molecular Biology and Bioinformatics)

M.Sc. (Molecular Biology and Bioinformatics)

**Curriculum Description** (briefly introduce an overview of the curriculum offered)

The Department of Molecular Biology and Bioinformatics (MBB) has now incorporated into the Genomics and Bioinformatics Research Center at Prince of Songkla University (PSU), the most prestigious university in southern Thailand. In this day of age, the science of biology is constantly changing. The rapid change of biological science, with the integration of information technology into biological research has led us to establish a department which aims to attain high standards in biotechnology and education, research and entrepreneurship. Bioinformatics is an interdisciplinary science at the interface of biology, chemistry, medicine, mathematics, and computer science. Its goal is developing and applying computational approaches to studies of life processes and improvement of human health therefore, joint research is essential. For this, we have recognized the need for providing our university infrastructure with expert professors with skills in bioinformatics, mathematics and computing as well as in biology, expecting that this new structure will help to meet this need. The objectives of MBB: To perform high quality research in molecular biology and bioinformatics and to provide courses that will disseminate basic and advanced knowledge in biotechnology, molecular biology and bioinformatics. To achieve this, we offer programs for M.Sc. and Ph.D. degrees in Molecular Biology and Bioinformatics.

**Type of Program**

- Regular Program (Monday- Friday)
- Regular Program (Monday- Friday) and International Program
- Special Program (Saturday-Sunday)

**Dissertation Themes** (provide the areas of research for thesis)

1. Animal Genome
  - a. Functional genomics and integrated approaches in animals.
  - b. Biotechnology for studying immune and reproductive systems in aquatic animals.
  - c. Production of recombinant protein for agriculture, medical field and biosensor.
  - d. Animal tissue culture and genetic engineering.
  - e. Transplantation in aquatic animals.
2. Plant Genome
  - a. Plant tissue culture and genetic engineering.
  - b. Developed molecular markers for high yield selection of oil palm.
3. Medical Molecular Biology
  - a. Molecular biology for infectious diseases and diagnosis.
  - b. Genetic susceptibility of complex diseases.
  - c. Gene and protein expression in cancer cells.
4. Microbial Biotechnology
  - a. Application of bacterial cellulose.
  - b. Bioethanol production with bacterial cellulose.
5. Bioinformatics
  - a. Bioinformatics for biomedical science.
  - b. Genome and transcriptome data analysis.

**Prospective students** (provide the background and previous education of the student who wants to study e.g. the Bachelor degree gained.)

1. Ph.D. (Molecular Biology and Bioinformatics)  
Applicant must be completed Bachelor's degree of Science or related field with honor or a GPA above 3.25 or Master's degree.
2. M.Sc. (Molecular Biology and Bioinformatics)  
Applicant must be completed Bachelor's degree of Science or related field.

**Prospective advisors**... (provide the names of the potential advisors as well as their CV/research of interest. If possible, also provide e-mail addresses and other means to contact the prospective advisors.)

1. Prof. Dr. Amornrat Phongdara, E-mail: amornrat.p@psu.ac.th, pamornra@yahoo.com

CV: [http://www.mbb.psu.ac.th/index.php?option=com\\_content&view=article&id=92&catid=99](http://www.mbb.psu.ac.th/index.php?option=com_content&view=article&id=92&catid=99)

2. Assoc. Prof. Dr. Wilaiwan Chotigeat, E-mail: wilaiwan58@hotmail.com, wilaiwan.c@psu.ac.th

CV: [http://www.mbb.psu.ac.th/index.php?option=com\\_content&view=article&id=93&catid=99](http://www.mbb.psu.ac.th/index.php?option=com_content&view=article&id=93&catid=99)

3. Assoc. Prof. Dr. Somporn Tanskul, E-mail: somporn.t@psu.ac.th

CV:

<http://www.mbb.psu.ac.th/documents/CV20March2017SompornTanskulforEducationHubforAsianCountries.pdf>

4. Assist.Prof.Dr. Warapond Wanna, E-mail: w.wanna@yahoo.com

CV: [http://www.mbb.psu.ac.th/index.php?option=com\\_content&view=article&id=100&catid=99](http://www.mbb.psu.ac.th/index.php?option=com_content&view=article&id=100&catid=99)

5. Assist.Prof.Dr. Suchera Thananimit, E-mail: s.thananimit@yahoo.com, suchera.l@psu.ac.th

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6. Assist.Prof.Dr. Unitsa Sangket, E-mail:unitsa.s@psu.ac.th

CV: [http://www.mbb.psu.ac.th/index.php?option=com\\_content&view=article&id=104&catid=99](http://www.mbb.psu.ac.th/index.php?option=com_content&view=article&id=104&catid=99)

7. Assist.Prof. Dr. Monwadee Wonglapsuwan, E-mail: monwade@hotmail.com

CV: [http://www.mbb.psu.ac.th/index.php?option=com\\_content&view=article&id=105&catid=99](http://www.mbb.psu.ac.th/index.php?option=com_content&view=article&id=105&catid=99)

8. Dr.Jutarut Iewkittayakorn, E-mail: jpornpunyapat@yahoo.com

CV: [http://www.mbb.psu.ac.th/index.php?option=com\\_content&view=article&id=106&catid=99](http://www.mbb.psu.ac.th/index.php?option=com_content&view=article&id=106&catid=99)

9. Dr. Alisa Nakkaew, E-mail: joy\_alisa@yahoo.com, alisa.n@psu.ac.th, alisa\_nak@yahoo.com

CV: [http://www.mbb.psu.ac.th/index.php?option=com\\_content&view=article&id=107&catid=99](http://www.mbb.psu.ac.th/index.php?option=com_content&view=article&id=107&catid=99)

10. Dr.Ponsit Sathapondecha, E-mail: ponsit.sat@gmail.com

CV: [http://www.mbb.psu.ac.th/index.php?option=com\\_content&view=article&id=173](http://www.mbb.psu.ac.th/index.php?option=com_content&view=article&id=173)

**Contact Information** (provide the person who is in charged for the curriculum as well as his/her e-mail and affiliation)

Assist.Prof.Dr. Warapond Wanna, E-mail: waraporn.wa@psu.ac.th or w.wanna@yahoo.com,  
Chairman of the Curriculum Committee