



# Dr. Siti Nor Khadijah Addis

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## QUALIFICATIONS

- Doctor of Philosophy (Medical Sciences), Australian National University
- Bachelor of Biomedical Science, University of Malaya

## FIELD OF RESEARCH

- Molecular virology
- Cloning and gene expression
- Antimicrobial studies

## RESEARCH INTEREST

My past and current research revolve on the development of veterinary vaccine from a hybrid of bacterial protein and virus-like particle (VLP). My team are currently studying on the potential use of VLP as a platform to carry Outer Membrane Protein (OMP) of *Pasteurella multocida*, in the search of a VLP vaccine against haemorrhagic septicaemia disease. Our team is also working on the discovery of novel antiviral and antibacterial agent from marine and aquatic resources. Currently, our team is looking at the potential antiviral activity of mud crab protein against Dengue virus.

## RESEARCH PROJECTS

- Elucidation of immunoprotective capacity of chimeric Murine polyomavirus-like particles (VLP)-based vaccine with the fimbrial protein of *Pasteurella multocida* against hemorrhagic septicemia
- Synthesis, characterization and molecular docking studies of cinnamic acid derivatives in understanding their potential as antiviral agent against Dengue virus
- Molecular elucidation of recombinant scygonadin antimicrobial peptide (AMP) activity from mud crab (*Scylla serrata*) against Dengue virus
- Molecular characterization of iridovirus in marine oyster from Marudu Bay, Sabah.

- Synthesis of in vitro protein expression system expressing murine polyomavirus-like particles with the outer membrane protein of *Pasteurella multocida* for future application as vaccine for pneumonic pasteurellosis.

### EXPERT LINKAGES

- MALAYSIAN GENOME INSTITUTE (MGI)
- OCEAN UNIVERSITY OF CHINA (OUC)

### PROFFESIONAL MEMBERSHIP

- European Society of Clinical Microbiology and Infectious Diseases (ESCMID)
- Malaysian Society for Microbiology
- Malaysian Society of Applied Biology
- Malaysian Biosafety & Biosecurity Association

### GRANTS

Project : Elucidation of immunoprotective capacity of chimeric Murine polyomavirus-like particles (VLP)-based vaccine with the fimbrial protein of *Pasteurella multocida* against hemorrhagic septicemia

Position : Principle Investigator

Grant Name : Fundamental Research Grant Scheme (FRGS)

Status : Active

Amount : RM140,000

Project : Synthesis, characterization and molecular docking studies of cinnamic acid derivatives in understanding their potential as antiviral agent against Dengue virus

Position : Co-investigator

Grant Name : Fundamental Research Grant Scheme (FRGS)

Status : Active

Amount : RM165,800

Project : Molecular characterization of iridovirus in marine oyster from Marudu Bay, Sabah.

Position : Co-investigator

Grant Name : Research Agricultural Grant Scheme (RAGS)

Status : Completed

Amount : RM80,000

Project : Molecular elucidation of recombinant scygonadin antimicrobial peptide (AMP) activity from mud crab (*Scylla serrata*) against Dengue virus

Position : Principle Investigator

Grant Name : Fundamental Research Grant Scheme (FRGS)

Status : Completed

Amount : RM124,200

  

Project : Synthesis of in vitro protein expression system expressing murine polyomavirus-like particles with the outer membrane protein of *Pasteurella multocida* for future application as vaccine for pneumonic pasteurellosis

Position : Co-Investigator

Grant Name : Exploratory Research Grant Scheme (ERGS)

Status : Completed

Amount : RM94,800

## AWARDS

- Best Oral Presenter, 3rd Seminar Biosafety and Biosecurity (BIOSES) (2021)
- Visiting Lecturer, Ocean University of China, Qingdao, China (2018)
- Best Oral Presenter, International Cell Signaling Conference (ICSC) (2017)
- Best Oral Presenter, The Australian Society for Medical Research, Young Investigator Forum, Australia (2009)
- Silver Medal at Amalan Inovasi Pengajaran dan Pembelajaran (AIPP) Karnival Inovasi@UMT 2020, Animal Cell Culture Basics Virtual Lab: an Adaptation Of An In-Person Lab Practical To A Virtual Learning Experience
- Bronze Medal at Research & Innovation Week 2018, Polyomavirus-Like Particles with fimbrial protein of *P. multocida* as vaccine candidate for haemorrhagic septicaemia in livestock
- Bronze Medal at 28th International Invention, Innovation and Technology Exhibition (ITEX 2017), Marine-derived natural product: synthesis and antibacterial activity of hystatin 2 derivative
- Gold Award at Inovasi @ Universiti Malaysia Terengganu, Marine-Derived Natural Product: Synthesis and Antibacterial Activity Of Hystatin 2 Derivatives
- Gold Award at Inovasi @ Universiti Malaysia Terengganu, First Detection Of Megalocytivirus In Oysters From Marudu Bay Sabah
- Silver Award at Inovasi @ Universiti Malaysia Terengganu, *Oryctes Rhinoceros* Nudivirus: A New Biocontrol Agent Against Oil Palm Rhinoveros Beetles, *Oryctes Rhinoceros*
- First runner up winner at Community Research & Innovation Competition (CORIC 2016), *Oryctes rhinoceros* nudivirus inovative biocontrol agent for controlling *aryctes rhinoceros* in oil palm plantation
- Bronze at Novel Research & Innovation Competition (NRIC 2016), *Oryctes Rhinoceros* Nudivirus: A New Biocontrol Agent Against Oil Palm Rhinoveros Beetles, *Oryctes Rhinoceros*

## PUBLICATIONS

### Journal Article

1. Puvarasi Pallanisamay, Siti Nor Khadijah Addis, Nur Ain Farhah Ros Saidon Khudri, Ramle Moslim and Wahizatul Afzan Azmi (2020) Detection of *Oryctes Rhinoceros Nudivirus* (ornv) from *Oryctes Rhinoceros* (Coleoptera: Scarabaeidae) beetles in oil palm plantations of East Coast Peninsular Malaysia, *Journal of the International Society for Southeast Asian Agricultural Sciences*, 26 (2) 99-107
2. Nurfarhana Rosli, Farah Ayunie Mohd Zain, Sandra Catherine Zainathan and Siti Nor Khadijah Addis (2019) Heterologous expression of recombinant scygonadin antimicrobial peptide from mud crab *Scylla serrata*, *Malaysian Journal of Applied Biology*, 48 (1): 95-100
3. Fong Jhun Hou, Siti Nor Khadijah Addis and Wahizatul Afzan Azmi (2018) Virulence evaluation of entomopathogenic fungi against the red palm weevil, *Rhynchophorus ferrugineus* (coleoptera: dryophoridae), *Malaysian Journal of Applied Biology*, 47(5): 25-30
4. George Bobby, Tee Ka Hong, Siti Nor Khadijah Addis, Mohd Effendy Abd Wahid, Yeong Yik Sung, Sandra Catherine Zainathan (2018) First detection of *Megalocytivirus* in oysters (*Crassostrea Iredalei*) from Marudu Bay, Sabah, Malaysia, *Aquaculture, Aquarium, Conservation & Legislation Bioflux*, 11 (5): 1537-1547
5. Siti Shafiqah Mohamad Zaki, Nur Diyana Ruslan, Hidayatul Aini Zakaria, Mohd Effendy Abd Wahid and Siti Nor Khadijah Addis (2017) Expression of Murine polyomavirus-like particles with fimbrial protein of *Pasteurella multocida*, *Malaysian Journal of Applied Biology*, Vol 46 (4): 179-185
6. Tee Ka Hong, George Bobby, Siti Nor Khadijah Addis, Najiah Musa, Mohd Effendy Abdul Wahid and Sandra Catherine Zainathan (2017) Histopathology conditions of cultured oyster, *Crassostrea iredalei* from southern and east Malaysia, *Aquaculture, Aquarium, Conservation & Legislation Bioflux*, Vol 10: 445-454
7. Wahizatul Afzan Azmi, Zaidatul Akma Sulaiman, Insyirah Ishak, Pong Kuan Kin, Grace Lee Earn Lin and Siti Nor Khadijah Addis (2016) Virulence evaluation of entomopathogenic fungi to subterranean termites, *Globitermes sulphureus* (INSECTA: ISOPTERA), *Malaysian Journal of Microbiology*, Vol 12: 492-497
8. Muhamad Fadzli Abd Razak, Asnuzilawati Asari, Ahmad Sazali Hamzah, Siti Nor Khadijah Addis and Habsah Mohamad, (2015), Synthesis, characterization and antibacterial activity of Hystatin 2 derivatives, *Journal of Chemical and Pharmaceutical Research*, Vol 7(4): 830-837
9. Siti Nor Khadijah Addis, Eva Lee, Jayaram Bettadapura and Mario Lobigs, (2015), Proteolytic cleavage analysis at the Murray Valley encephalitis virus NS1-2A junction, *Virology Journal*, Vol 12:144
10. Siti Nor Khadijah Addis and Jayaram Bettadapura, (2015), The implication of amino acid mutations at flavivirus NS1-2A cleavage site on NS1' protein production, *Malaysian Journal of Microbiology*, Vol 11(4): 398-402

## Other Outputs

[Thesis, manuscript, books, reports, etc.]

1. PhD Dissertation: Genetic and functional analysis of the proteolytic cleavage at the junction of the NS1 and NS2A proteins of Murray Valley encephalitis virus (2011)
2. BBMed Dissertation: Human Immunodeficiency Virus (HIV) subtypes and drug resistant mutations in Malaysia (2006)
3. Chapter in book: Nakisah Mat Amin, Siti Nor Khadijah Addis, Malinna Jusoh, Wan Iryani Wan Ismail, Norhayati Yusuf and Azila Adnan. Ecological function and services. In: Polychaetes the wiggly heroes of Malaysia, Aziz Ahmad, Izwandy Idris, Vigneswari Sevakumaran and Azila Adnan(eds), Penerbit UMT, ISBN: 978-967-2417-93-4

## SUPERVISION

### Doctor of Philosophy Degree

Thesis Title : Recombinant murine polyomavirus-like particles with the fimbrial protein of *Pasteurella multocida* as a novel vaccine against haemorrhagic septicaemia

Student Name : Reyad Qaed Saif Almoheer

Role : Main supervisor

Status : Ongoing

### Master Degree

Thesis Title : Synthesis of in vitro protein expression system expressing murine polyomavirus-like particles with the outer membrane protein of *Pasteurella multocida* for future application as vaccine for pneumonic pasteurellosis

Student Name : Nur Diyana Ruslan

Role : Main supervisor

Status : Completed

Thesis Title : Field investigation on incidents of Iridovirus infections with other pathogen in farmed oysters in Johor and Sabah

Student Name : Tee Ka Hong

Role : Co-supervisor

Status : Completed

Thesis Title : Molecular analysis of marine virus in oysters from Marudu bay Sabah and Johor  
Student Name : George Bobby  
Role : Co-supervisor  
Status : Completed

Thesis Title : Synthesis, characterization and antibacterial activity of hystatin derivatives.  
Student Name : Muhammad Fadzli Abd Razak  
Role : Co-supervisor  
Status : Completed

Thesis Title : Elucidation of antiviral and prophylactic effect of scygonadin from mud crab (*Scylla serrata*) against Dengue virus.  
Student Name : Nurfarhana Rosli  
Role : Main supervisor  
Status : Ongoing

Thesis Title : Synthesis of in vitro protein expression system expressing Murine polyomavirus-like particles with fimbrial protein of *Pasteurella multocida*.  
Student Name : Siti Shafiqah Mohamad Zaki  
Role : Co-supervisor  
Status : Ongoing

Thesis Title : Synthesis, characterization and molecular docking studies of cinnamic acid derivatives in understanding their potential as antiviral agent against dengue virus  
Student Name : Anis Najwa Mohd Wahid  
Role : Co-supervisor  
Status : Ongoing

Thesis Title : Terahertz spectroscopy study of amyloid fibrils and its relation to neurological diseases  
Student Name : Shakirah Wahida Shamsul Bahari  
Role : Co-supervisor  
Status : Ongoing

## COURSE TAUGHT

- BIO3400 Basic Microbiology
- BIO3301 Cell and Tissue Culture
- BIO3403 Virology
- BiO3401 Advanced Microbiology

## LINKS

- SCOPUS ID: 56845517200
- Researchgate [https://www.researchgate.net/profile/Siti\\_Addis](https://www.researchgate.net/profile/Siti_Addis)
- ORCID 0000-0001-6362-8645
- Google Scholar Siti Nor Khadijah Addis
- Facebook <https://www.facebook.com/dyaddis>