

# Curriculum Vitae: Mingkwan NIPITWATTANAPHON

**Position:** Lecturer/Researcher

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## Academic Career:

### 1989-1995

High School: Mahaprutaram Girl's School, Bangkok, Thailand

### 1995-1999

B.Sc. (Biology) "Genetic Relationships among Sugarcane Varieties in Thailand" Department of Genetics, Faculty of Science, Kasetsart University, Bangkok, Thailand

### 1999-2003

M.S. (Genetics) "Ribosomal DNA Diversity of Ants (*Camponotus rufoglaucus* and *Diacamma* sp.): Potential Use for Evolutionary Study" Department of Genetics, Faculty of Science, Kasetsart University, Bangkok, Thailand

### 2006- 2012

Ph.D. student under supervision of Prof. Laurent Keller at the University of Lausanne, Switzerland

### 2003-2006, and 2013 until now

Instructor of Department of Genetics, Faculty of Science, Kasetsart University, Bangkok, Thailand

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## Teaching:

### • 2001-2002: Kasetsart University, Bangkok, Thailand

- Trainer of the Workshop on Mushroom Identification by Using DNA Technique -18-20 December 2001
- Trainer of the Workshop on DNA sequencing - 25-27 November 2002

### • 2004-2005: Kasetsart University, Bangkok, Thailand

- Principles of Genetics
- Laboratory in Genetics
- Genetic and Evolution
- Human Genetics
- Research methods in Entomology
- Research methods in Genetics
- Genetic Engineering I
- Genetic Engineering II
- Gene manipulation and Application

### • 2009-2011: University of Lausanne, Switzerland

- Molecular Genetics - Practical 3 students (M.Sc.)
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## Languages:

- Thai (maternal)
  - English (working language)
  - French (Active: A2; Passive: B1)
  - Chinese (Beginner)
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## Awards & grants:

- Royal Thai Government Scholarship for M.Sc. studies in Thailand (2000-2002), ~5,200 CHF
  - Training grant: workshop on GeneScan software, Ohio Agricultural Research and Development Center (OARDC), USA, 30 August-4 September 2004, ~4,900 CHF
  - Royal Thai Government Scholarship for Ph.D. studies in Switzerland (2006-2010), ~124,050 CHF
  - Student travel grant from Swiss Zoological Society (SZG/SSZ) to attend European Society for Evolutionary Biology (ESEB) conference in Turin, Italy, 2009
  - Graduate student poster competition: honorable mention in XVI International Congress of the International Union for the Study of Social Insects (IUSSI2010)
  - President of the Association of Thai Students in Switzerland (ATSS) (2011)
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## Skills:

- **Techniques in molecular biology:** DNA/RNA extraction, PCR, RAPD, RFLP, sequencing, gene transfer, microarrays, microsatellite genotyping, gene cloning, Southern blot, artificial insemination in insects, sperm viability assay, fluorescence microscopy
  - **Software for data analysis, visualization and presentation:** R programming, Adobe Illustrator, Gene Mapper/Peak scanner (Applied Biosystems), GenePix (Molecular Devices), Mfold
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## Publications:

- Nipitwattanaphon, M., S. Piyachoknagul, and P. Saksoong. 2005. The fine structure of 28S ribosomal DNA of ants. **Proceeding of the 14th Genetic Conference**. Bangkok. Thailand, 11-13 March 2005
- Saksoong, P., S. Piyachoknagul, and M. Nipitwattanaphon. 2005. Secondary structure models of the 28S DNA transcript of ants. **Proceeding of the 14th Genetic Conference**. Bangkok. Thailand, 11-13 March 2005
- Nipitwattanaphon, M., J. Wang, and L. Keller. 2007. Developing transgenics for the fire ant, *Solenopsis invicta*. **XI Congress European Society for Evolutionary Biology (ESEB)**, Uppsala, Sweden, 20-25 August 2007.
- Nipitwattanaphon, M., J. Wang, and L. Keller. 2009. Transcriptional basis associated with queen acceptance and execution in *Solenopsis invicta*. **XII Congress European Society for Evolutionary Biology (ESEB)**, Turin, Italy, 25-29 August 2009.
- Nipitwattanaphon, M., J. Wang, and L. Keller. 2010. Unraveling the pleiotropic effects behind the green beard. **XVI Congress International Union for the Study of Social Insects (IUSSI)**, Copenhagen, Denmark, 8-13 August 2010.
- Wurm, Y., J. Wang, O. Riba-Grognuz, M. Corona, S. Nygaard, B.G. Hunt, K.K. Ingram, L. Falquet, M. Nipitwattanaphon, D. Gotzek, M.B. Dijkstra, J. Oettler, F. Comtesse, C.-J. Shih, W.-J. Wu, C.-C. Yang, J. Thomas, E. Beaudoin, S. Pradervand, V. Flegel, E.D. Cook, R. Fabbretti, H. Stockinger, L. Long, W.G. Farmerie, J. Oakey, J.J. Boomsma, P. Pamilo, S.V. Yi, J. Heinze, M. a D. Goodisman, L. Farinelli, K. Harshman, N. Hulo, L. Cerutti, I. Xenarios, D. Shoemaker, and L. Keller. 2011. The genome of the fire ant *Solenopsis invicta*. **Proceedings of the National Academy of Sciences of the United States of America**. 108:5679-84
- Wang, W., Y. Wurm Y, M. Nipitwattanaphon, O. Riba-Grognuz, Y.C. Huang, D. Shoemaker, and L. Keller. 2013. A Y-like social chromosome causes alternative colony organization in fire ants. **Nature** 493(7434): 664-668.
- Nipitwattanaphon, M., J. Wang, K.G. Ross, O. Riba-Grognuz, Y. Wurm, C. Khurewathanakul, and L. Keller. 2013. Effects of ploidy and sex-locus genotype on gene expression patterns in the fire ant *Solenopsis invicta*. in prep.
- Nipitwattanaphon, M., J. Wang, M.B. Dijkstra, and L. Keller. 2013. A simple genetic basis for complex social behavior mediates widespread gene expression differences. in review.
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