

## Curriculum Vitae

### Personnel:

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Position and  
Current Affiliation: Assistant Professor,  
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### Education:

**B.Sc.** (Biology), Kasetsart University, Thailand, March 1983, major in microbiology  
**M.Sc.** (Microbiology), Kasetsart University, Thailand, March 1987; for thesis entitled: “ Cultivation of *Rhodopseudomonas gelatinosa* on Cassava Solid Waste as Fish Feed and Improvement of Cell Culture and Nutritional Quality by Mixed Culture with *Rhodopseudomonas sphaeroides* P 47 ”  
**Diploma** (Microbiology) International Post-Graduate University Course, Osaka University Japan, September 1990; for research topic “Random Mutagenesis of a Thermostable Peroxidase from *Bacillus stearothermophilus*: Distribution of Mutants  
**Ph. D** (Biotechnology) Osaka University Japan, January 1995; for thesis entitled “Landscape Around catalase I from *Bacillus stearothermophilus* and Its Application for Protein Engineering by Artificial Evolution”

### Experiences:

**July 1987-September 1987:** Research assistant Kasetsart University, under ASEAN food waste project; experience in aminolevulinic acid (ALA) production by photosynthetic bacteria

**October 1987-November 1988:** Researcher, Dengue Vaccine Development Center, Mahidol University; experience in primary cell culture such as monkey & rabbit kidney, chick and quail embryos for attenuation of dengue virus; sterility and safety test of vaccine performing in cell culture (MK2-cell); testing for adventitious agents such as *Mycoplasma*; animal cell culture for vaccine production in 0.5 L fermenter (lab scale)

**October 1989-September 1990:** Training course in International Post-Graduate, Osaka University Japan; experience in techniques in genetic engineering, chemical DNA synthesis, mutation (PCR, site-directed, chemical substance), protein purification and characterization

## Publications:

1. Noparatnaraporn, N., **Trakulnaleamsai, S.** and Duangsawat, S. 1987. Tentative Utilization of Photosynthetic Bacteria as a Multiple Purpose Animal Feed Supplement to Fresh Water Fish I: The Goldfish, *Carassius auratus*. J. Science Society Thailand Vol. 13, No. 1, p. 15-27
2. Noparatnaraporn, N., **Trakulnaleamsai, S.**, Silveyra, R.G., Nishizawa, Y. and Nagai, S. 1987. SCP Production by Mixed Culture of *Rhodocyclus gelatinosus* and *Rhodobacter sphaeroides* from Cassava Waste. J. Fermentation Technology, Vol 65 No.1, p. 11-16
3. **Trakulnaleamsai, S.**, Aihara, S., Miyai, K., Suga, Y., Sota, M., Yomo, T. and Urabe, I. 1992. Revised Sequence and Activity of *Bacillus stearothermophilus* Catalase I (formerly peroxidase). J. Fermentation and Bioengineering, Vol. 74, p. 234-237
4. **Trakulnaleamsai, S.**, Yomo, T. and Urabe, I. 1992. Promenade in the Sequence Space of *Bacillus stearothermophilus* Catalase by Random Mutagenesis. Annals New York. Academic Science, Vol., 672, p. 103-105
5. **Trakulnaleamsai, S.**, Yomo, T., Yoshikawa, M., Aihara, S. and Urabe, I. 1995. Experimental Sketch of Landscape in Protein Sequence Space. J. Fermentation and Bioengineering, Vol. 79, No. 2, p. 107-118
6. Matsuura, T., Yomo, T., **Trakulnaleamsai, S.**, Ohashi, Y., Yamamoto, K. and Urabe, I. 1998. Nonadditivity of Mutational Effects on The Properties of Catalase I and Its Application to Efficient Directed Evolution. Protein Engineering, Vol.11, No.9, p.789-795
7. Matsuura, T., Kouji, M., **Trakulnaleamsai, S.**, Yomo, T., Shima, Y., Miki, S., Yamamoto, K. and Urabe, I. 1999. Evolutionary Molecular Engineering by Random Elongation Mutagenesis. Nature Biotechnology, Vol., 17, January
8. Deevong, S., Hongoh, Y., Moriya, S., Inoue, T., **Trakulnaleamsai, S.**, Ohkuma, M., Kudo, T. and Noparatnaraporn, N. 2001. Comparison of the Bacterial Community Structure in the Gut of the Wood-feeding termite, *Microcerotermes crassus* (Termitidae, Termitinae), between different Colonies in Different Areas. Proceeding in Joint Seminar on “Termite Bio-recycle Project” Organized by Kasetsart University Research and Development Institute and Japan Science and Technology Corporation, Phuket Merlin Hotel, Phuket Thailand, June, 28-30
9. Ekpornprasit, L., Hongoh, Y., Moriya, S., Inoue, T., Jojima, T., **Trakulnaleamsai, S.**, Ohkuma, M., Kudo, T. and Noparatnaraporn, N. 2001. Comparison of the Bacterial Community Structure in the Gut of a Fungus-growing Termite, *Macrotermes gilvus* (Termitidae, Macrotermitinae), between different Castes and Different Ages. Proceeding in Joint Seminar on “Termite Bio-recycle Project” Organized by Kasetsart University Research and Development Institute and Japan Science and Technology Corporation, June, 28-30, Phuket Merlin Hotel, Phuket Thailand

10. **Trakulnaleamsai, S.**, Hongoh, Y., Deevong, P., Ekpornprasit, L., Inoue, T., Jojima, T., Moriya, S., Ohkuma, M., Kudo, T. and Noparatnaraporn, N. 2002. **Examination of Identity of Gut bacterial Community Structure within One Termite Species**. Proceeding in International Symposium “ Bio-recycle Research on Termites and Their Symbiotic Microorganisms” Organized by Kasetsart University Research and Development Institute and Japan Science and Technology Corporation, 26-27<sup>th</sup> February, Suzuki Umetaro Hall, Bioscience Building, RIKEN, Saitama, Japan
  
11. Thongaram, T., Kosono, S., Ohkuma, M., Hongoh, Y., Kitada, M., Yoshinaka, T., **Trakulnaleamsai, S.**, Noparatnaraporn, N. and Kudo, T. 2003. **Gut of Higher Termites as a Niche for Alkaliphiles as Shown by Culture-Based and Culture-Independent Studies**. *Microbes Environ.* Vol. 18, No. 3
  
12. **Trakulnaleamsai, S.**, Hongoh, Y., Deevong, P. and Noparatnaraporn, N. 2004. **Phylogenetic Diversity of Bacterial Symbionts in the Guts of Wood-Feeding Termites**. Proceeding in Kasetsart Academic Conference 42<sup>th</sup>, 3-6 February, Kasetsart University, Bangkok, Bangkok 10900, Thailand
  
13. Pinsurang Deevong, Satoshi Hattori, Akinori Yamada, **Savitr Trakulnaleamsai**, Moriya Ohkuma, Napavarn Noparatnaraporn and Toshiaki Kudo. 2004. **Isolation and Detection of Methanogens from the Gut of Higher Termites**. *Microbes Environ* Vol. 19, No.3, 221-226.
  
14. Taksawan Thongaram, Yuichi Hongoh, Saori Kosono, Moriya Ohkuma, **Savitr Trakulnaleamsai**, Napavarn Noparatnaraporn and Toshiaki Kudo. 2005. **Comparison of bacterial communities in the alkaline gut segment among various species of higher termites**. *Extremophiles* 9:229-238
  
15. Taprab, Y., Johjima, T., Maeda, S., Trakulnaleamsai, S., Noparatnaraporn, N., Ohkuma, M., and Kudo, T. 2005. Symbiotic fungi produce laccases potentially involved in phenol degradation in fungus combs of fungus-growing termites in Thailand. *Appl. Environ. Microbiol.* 71:7696-7704.
  
16. Yuichi Hongoh, Pinsurang Deevong, Tetsushi Inoue, Shigeharu Moriya, **Savitr Trakulnaleamsai**, Moriya Ohkuma, Charunee Vongkaluang, Napavarn Noparatnaraporn and Toshiaki Kudo. 2005. **Intra- and Interspecific Comparisons of Bacterial Diversity and Community Structure Support Coevolution of Gut Microbiota and Termite Host**. *Applied and Environmental Microbiology*, Nov. 2005, p. 6590-6599
  
17. Savaporn Supaphol, Supamard Panichsakpatana, **Savitr Trakulnaleamsai**, Nipon Tungkananuruk, Pinnapar Roughjanajirapa and Anthony Gerard O'Donnell. 2005. **The selection of mixed microbial inocula in environmental biotechnology: Example using petroleum contaminated tropical soils**. *J. of Microbiological Methods* (in press)

18. Y. Hongoh, L. Ekpornprasit, T. Inoue, S. Moriya, S. Trakulnaleamsai, M. Ohkuma, N. Noparatnaraporn and T. Kudo. 2006. Intra-colony variation of bacterial gut microbiota among castes and ages in the fungus-growing termite *Macrotermes gilvus*. *Molecular Ecology* 15,505-516
19. Deevong, P., Hongoh, Y., Inoue, T., Trakulnaleamsai, S., Kudo, T., Noparatnaraporn, N., and Ohkuma, M. 2006. Effect of temporal sample preservation on molecular study of complex microbial community in the gut of the termite *Microcerotermes* sp. *Microbes Environ* vol. 21 No. 2, 78-85

### **Current Research:**

1. Phylogenetic Diversity of Bacterial Symbiont in Higher Termite Gut Isolated in Thailand (research funded by Kasetsart University Research and Development Institute)
2. Isolation and Characterization of Thermotolerant *Corynebacterium glutamicum* Isolated in Thailand (research funded by Kasetsart University Research and Development Institute)
3. Growth and Glutamic Acid Production of Thermotolerant *Corynebacterium glutamicum* Isolated in Thailand (research funded by Kasetsart University Research and Development Institute)
4. Development of Microsatellite Molecular Markers for Identification of *Crocodylus siamensis*, Fresh-water Thai, Crocodile (research funded by Kasetsart University Research and Development Institute)
5. Diversity of haloalkaliphilic bacteria isolated from alkaline soil in Kanchanaburi research station and their capabilities on phenol compound Degradation (research funded by Kasetsart University Research and Development Institute)

### **Area of Interests:**

DNA Technology  
Molecular biology and Taxonomy of Bacteria  
Protein Engineering  
Microbial Enzyme Technology