NATTHAPORN TAKPHO

Assistant Manager | Life Science & Healthcare Research

CONTACT

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SUMMARY

Holding a PhD. in Biological Science with extensive research experiences in biotechnology, metabolic engineering, and molecular biology across the industry. 4+ years of experience in technology scouting and business idea development to create customer-driven solutions.

SKILLS

- **Molecular biology**; DNA sequencing, NGS, real time PCR, vector construction, gene & protein expression, molecular genome typing
- **Biochemistry & Analysis**; western blot, northern blot, enzymatic assay and HPLC
- **Biotechnology**; microbial strain engineering, lab-scale fermentation and substrate evaluation
- **Microbiology**; comprehensive knowledge and experiences in bacteria and yeast

PROFESSIONAL EXPERIENCE

MAY 2021 TO PRESENT •
ASSISTANT MANAGER • RESEARCH DIVISION •
MITSUI CHEMICALS SINGAPORE R&D CENTRE
Role: Lead and direct R&D projects in life science and healthcare
Research area: biomaterials, medical simulation, healthcare, agriculture

- Explored new business opportunities and identified market needs in Southeast Asia
- Managed market survey plan and technology scouting activities
- Established R&D framework that includes PoC, cost structure analysis and business model development
- Collaborated with internal and external stakeholders to develop new business/innovations
- Coordinated with teams and stakeholders to maintain a project timeline
- Managed patent application
- Consistently recognized with exceptional feedback in annual performance reviews, exceeding the highest ranking, a rating reserved for only two employees in the past ten years.

NOVEMBER 2017 TO APRIL 2021 •
RESEARCHER • MITSUI CHEMICALS SINGAPORE R&D CENTRE
Role: Plan and supervise R&D projects in life science and healthcare
Research area: microbiome, diagnosis, animal health

- Developed new business idea and business model
- In charge of technology and market validation to justify the business hypothesis
- Created scientific hypothesis for new projects
- Validated technology feasibility of potential partners
- Established the PoC platform and evaluated patentability
- Prepared patent draft and patent application
- Designed and conducted PoC experiments
- Developed experimental procedures
- Provided technical support and coaching for co-workers
- Consistently recognized with outstanding feedback in annual performance reviews with the highest ranking

OCTOBER 2013 TO SEPTEMBER 2014 •
MOLECULAR MICROBIOLOGIST •
MAHIDOL-OXFORD TROPICAL MEDICINE RESEARCH UNIT

- Operated molecular genetic analysis for epidemiological study
- Discovered new bacterial isolates and registered to MLST database
- Familiar with CDC-certified BSL-3 laboratory working environment and practices.

EDUCATION

PHD IN BIOLOGICAL SCIENCE • SEPTEMBER 2017 •
NARA INSTITUTE OF SCIENCE AND TECHNOLOGY (NARA, JAPAN)

Awards & Honors:

- Japanese government (MEXT) scholarship for doctoral program

Training:

- **Gekkeikan Co, Ltd (Japan):** One-month internship at research institute and production factory (research scope: product development and basic science research)
- **University of California Davis (USA)**: One-month research internship, Department of Microbiology and Molecular Genetics
  (research scope: regulation of NAD+ homeostasis and cellular life span in yeast)

MSC IN BIOTECNOLOGY (INTERNATIONAL PROGRAM) • JULY 2013 •
MAHIDOL UNIVERSITY (BANGKOK, THAILAND)

Awards & Honors:

- Best academic research for oral presentation at National Genetics Conference 2013, Bangkok, Thailand
- Research scholarship for research exchange program, Japan Student Service Organization (JASSO)
- Research scholarship for master degree research in science and technology, The Thailand Research Fund (TRF)

Training:

- **Osaka University (Japan):** FronteirLab@OsakaU 2012-2013, Laboratory of Yeast Genetic Molecular (research scope: molecular mechanism of thermotolerant yeast)
- **International Center for Biotechnology, Osaka University (Japan):** UNESCO Training Project FY 2011 (research scope: DNA microarray study of thermotolerant yeast in response to heat stress)

BSC IN BIOTECNOLOGY • MARCH 2010 •
KING MONGKUT'S INSTITUTE OF TECHNOLOGY LAD KRABANG (BANGKOK, THAILAND)

Senior project:

Bioactivities of morning glory extracts include antimicrobial, antioxidant, and antiproliferative activity.

Training:

- **Faculty of Medicine, Chulalongkorn University (Thailand):** Internship at Laboratory of Pathology (research scope: TB diagnosis and immunohistochemistry)

COURSES & CERTIFICATES

- **Agile Project Management, 2022**
  (Google)
- **Global Health Innovations Specializations, 2022**
  (Imperial College London)
- **Precision Medicine, 2022**
  (University of Geneva)
- **Design and Interpretation of Clinicals Trials, 2022**
  (Johns Hopkins University)
- **Data Science in Stratified Healthcare and Precision Medicine, 2022**
  (The University of Edinburgh)
- **Patent Law and Protecting Your Innovation, 2021**
  (Internal training)
- **Effective Project Management for Small Projects, 2021**
  (Tertiary Infotech, Singapore)
- **Design Thinking for Business Development, 2019**
  (ACE: Action Community for Entrepreneurship, Singapore)
- **Business Model Canvas**
  (Internal training)
- **How to Perform Prior Art Search, 2018**
  (IP Academy, Singapore)
- **Display Critical Thinking and Analytical Skills, 2018**
  (Kaplan Professional, Singapore)
- **Ethic in Clinical Study, 2014**
  (Mahidol-Oxford Tropical Medicine Research Unit, Thailand)

INTELLECTUAL PROPERTY & PUBLICATIONS

- Feed additive containing a non-genetically modified microorganism to create a probiotic feed for aquaculture (Application No. PCT/SG2022/050715)
- Method of producing microorganisms that produce rare carotenoid, erythroxanthin sulfate (Application No. 10202100657Q)
- Method of producing microorganisms that produce astaxanthin and astaxanthin derivatives (Application No.10202010838V)
- Takpho, N., Watanabe, D., & Takagi, H. (2018). Valine biosynthesis in *Saccharomyces cerevisiae* is regulated by the mitochondrial branched-chain amino acid aminotransferase BAT1. *Microbial Cell*, *5*(6), 293–299.
- Takpho, N., Watanabe, D., & Takagi, H. (2018). High-level production of valine by expression of the feedback inhibition-insensitive acetohydroxyacid synthase in *Saccharomyces cerevisiae*. *Metabolic Engineering*, *46*, 60–67.
- Limmathurotsakul, D., Paeyao, A., Wongratanacheewin, S., Saiprom, N., Takpho, N., Thaipadungpanit, J., Chantratita, N., Wuthiekanun, V., Day, N. P. J., & Peacock, S. J. (2014). Role of *Burkholderia pseudomallei* biofilm formation and lipopolysaccharide in relapse of melioidosis. Clinical Microbiology and Infection, 20(11)
- Expression of MSN4 and genes under its regulation in thermotolerant *Saccharomyces cerevisiae*. In: National Genetics Conference 2013 "Genetics towards ASEAN".

ACCOMPLISHMENT

- **TECH SPLASH Talk at Hyper Interdisciplinary Conference 2022 (Singapore)**
  Title: Biocontrol solution for sustainable agriculture
- **Most Passionate Idea Award 2021 by Mitsui Chemicals Singapore R&D Centre**
- **Invited panel discussion at Hyper Interdisciplinary Conference 2021 (Singapore)**
  Title: Solving global issues with project design approach ~Nanocellulose opening new possibility with Interdisciplinary Chemical Reaction~
- **Invited speaker at Hyper Interdisciplinary Conference 2020 (Singapore)**
  Title: Nutraceutical Solution for Healthier Living (Insect protein as alternative protein for healthier living)
- **Judges at Tech Plan Demo Day 2018** (Thailand)

REFERENCES

- **Dr. Janjira Thaipadungpanit** (janjira@tropmedres.ac)
  Head of Molecular Microbiology • Mahidol-Oxford Tropical Medicine Research Unit
- **Prof. Hiroshi Takagi** (hiro@bs.naist.jp)
  Laboratory of Applied Stress Microbiology • Division of Biological Sciences • Graduate School of Science and Technology • Nara Institute of Science and Technology
- **Dr. Sachin Malwadkar** (sachin.malwadkar@mitsuichemicals.com)
  Project Manager • New Business Development • Mitsui Chemicals Singapore R&D Centre