



**KHALIK M. SABIL, PhD**

Address: PETRONAS Research Sdn. Bhd, Lot 3288 & 3289 Off Jalan Ayer Itam Kawasan Institusi Bangi, 43000 Kajang - Selangor Darul Ehsan, Malaysia]

Email: [Khalik.mohamadsabil@petronas.com.my](mailto:Khalik.mohamadsabil@petronas.com.my)

Phone: +6012-4211974

---

## PERSONAL STATEMENT

Seasoned R&D and Innovation Leader with over 24 years of experience across academia and industry, currently spearheading research as Head of R&D, Fluid Technology Solutions (FTS) at PETRONAS Research. A PhD graduate of TU Delft, The Netherlands, with deep expertise in chemical engineering, CO<sub>2</sub> management, and advanced energy systems, combined with a proven ability to translate science into commercial and sustainable solutions.

Leads a high-performing R&D team delivering innovations in additives, industrial fluids, phase change materials, and second-generation fuels, including new formulations for lubricants, viscosity modifiers and PIBSA/PIBSI including their derivatives with application in fuels, lubricants, and potentially, decorative paints/coatings. Demonstrated ability to bridge science, business, and sustainability, supported by global academic collaborations with Imperial College London, MIT, Heriot-Watt University, NTNU, and UTP, as well as GIMI-certified innovation practices and capability-building programs.

Deeply committed to nurturing the next generation of engineers and scientists, serving as an Honorary Fellow at Heriot-Watt University, adjunct lecturer across multiple programs, and advisor on industrial boards.

Passionate about advancing sustainable technologies and materials innovation, strongly aligned with AkzoNobel's mission to pioneer transformative solutions in coatings, chemicals, and beyond.

---

## PROFESSIONAL EXPERIENCE

### Head of Research, Fluid Technology Solutions (FTS)

PETRONAS Research Sdn Bhd (PRSB) | Present - Lead a multidisciplinary R&D team focused on additives, industrial fluids, phase change materials, and second-generation fuels. - Team develops viscosity modifiers and PIBSA/PIBSI derivatives with applications spanning fuels, lubricants, and decorative paints/coatings, demonstrating cross-industry innovation. - Drive projects through TRL and incubation (BRL & CRL), ensuring alignment with PETRONAS's business growth and sustainability agenda. - Oversee technology transfer, IP strategy, and commercialization pathways, delivering measurable business impact. - Co-developed PETRONAS Technopreneurship Training Module for SKG23 Scientists with Imperial College London. - Certified GIMI Level 1 Innovation Masterclass, embedding innovation culture and capability development across R&D teams.

### Senior Manager, Academic Research Management

PETRONAS Research Sdn Bhd (PRSB) | 2022 – 2024 - Founded and led Academic Research Management Unit, evolving into a strategic hub for global partnerships. - Established 4 Global Technology Centres (Imperial College London, Heriot-Watt University, NTNU, UTP) and partnerships with MIT and 30+ universities. - Developed Academic Alliance Framework & Governance Model to streamline research collaboration and funding. - Aligned academic research with business priorities, enabling technology commercialization and revenue opportunities.

### Technology Manager

PETRONAS Research Sdn Bhd (PRSB) | 2020 – 2022 - Led R&D projects in CO<sub>2</sub> management and contaminant removal for upstream production and storage. - Advanced projects through TRL1–4, ensuring technical and operational compliance. - Contributed to PETRONAS's sustainability portfolio, particularly in CO<sub>2</sub> storage and utilization.

### Associate Head of School, Energy, Geoscience, Infrastructure & Society

Heriot-Watt University Malaysia (HWUM) | 2013 – 2019 - Founding academic leader responsible for curriculum design, accreditation, and school operations. - Secured professional accreditation from the Board of Engineers Malaysia and Board of Quantity Surveyors. - Built faculty teams and delivered programs to international standards.

### Senior Lecturer & Researcher (Chemical & Petroleum Engineering)

Universiti Teknologi PETRONAS (UTP) | 2001 – 2013 - Established Malaysia's first Gas Hydrate Research Facility, securing major funding and enabling international collaborations. - Pioneered research in gas hydrates, separation processes, and CO<sub>2</sub> management for flow assurance and gas treatment. - Published 90+ peer-reviewed papers

with 2,700+ citations globally. - Supervised MSc and PhD students, nurturing next-generation engineering talent.

---

## EDUCATION

- **PhD, Chemical Engineering** – Delft University of Technology (TU Delft), The Netherlands | 2005 – 2009
  - **MSc, Chemical Engineering (by Research)** – Universiti Sains Malaysia | 1998 – 2001
  - **BEng (Hons), Chemical Engineering** – Second Class Upper Division, Universiti Sains Malaysia | 1994 – 1998
- 

## CERTIFICATIONS & LEADERSHIP DEVELOPMENT

- GIMI Innovation Masterclass – Level 1 (Certified)
  - High-Impact Leadership Training & Leadership Edge, PETRONAS
- 

## PROFESSIONAL AFFILIATIONS & ACADEMIC ROLES

- **Honorary Fellow**, Heriot-Watt University, UK
  - **Adjunct Lecturer**, Chemical Engineering, Petroleum Engineering, and Foundation Programs, HWU Malaysia and Universiti Teknologi PETRONAS
  - **Member**, Industrial Advisory Boards (multiple institutions), providing strategic guidance and mentoring for young engineers and scientists
- 

## SELECTED ACHIEVEMENTS & RECOGNITION

- Led team innovations in viscosity modifiers and PIBSA/PIBSI derivatives, applied in fuels, lubricants, and decorative paints/coatings.
- Established 4 Global Technology Centres and led partnerships with MIT and 30+ institutions worldwide, creating global innovation networks.
- Advanced PETRONAS's decarbonization agenda through R&D in additives, sustainable fuels, and CO<sub>2</sub> management technologies.
- Built Malaysia's first Gas Hydrate Research Facility, positioning PETRONAS as a national leader in hydrate research.
- **Awards & Recognition:**
  - 2019: *Industrial & Engineering Chemistry Research – Class of Influential Researchers*
- **Patents & Industrial Design:**

- 2017: Patent – “Process for separation of carbon dioxide from gaseous stream” (PI: Khalik M. Sabil, 2013003605, Granted 28 April 2017)
  - 2013: Industrial Design – Gas Hydrate Crystallizer (MY13-01428-0101, Filed 04 October 2013)
-