

Curriculum Vitae

Prof. Adrian E. Flood

1. Academic Profile

Full Professor and Group Leader of the Industrial and Pharmaceutical Crystallization (IPC) Group at Vidyasirimedhi Institute of Science and Technology (VISTEC), Thailand (2015–present). Previously Full Professor at Suranaree University of Technology (2010–2015). Research focuses on industrial and pharmaceutical crystallization, chiral resolution, deracemization strategies, polymorphism, cocrystals and salt forms, and crystal nucleation mechanisms.

2. Research Expertise Relevant to ASEM-DUO

- Chiral resolution and deracemization (developer of Temperature-Cycle Induced Deracemization, TCID)
- Industrial crystallization and crystallization process development
- Polymorphism and polymorphic transformations
- Cocrystals and pharmaceutical salt forms
- Mechanisms of crystal growth and nucleation kinetics
- Scale-up strategies and process optimization for pharmaceutical systems

3. International Research Leadership & Institutional Partnerships

- Coordinator (Project Leader) of Thai National Research Fund grants including 'Young Researcher' and 'Mid-Career' awards
- Recipient of multiple Royal Golden Jubilee (RGJ) PhD Program grants supporting doctoral training
- Initiator of Double Degree PhD programs with University of Rouen Normandie (France) and Aix-Marseille University (France)
- Member of the ChiraChem Project (CNRS, France) promoting exchange between University of Bordeaux and VISTEC

4. International Doctoral Supervision & Mobility

1. Completed Double Degree Co-supervisions:

- Dr. Jin Maeda (Japan) – Double Degree VISTEC & University of Rouen Normandie (2024). Thesis: 'Contribution to the Understanding and Optimization of Temperature-Cycle Induced Deracemization.'
- Dr. Ruel Cedeno (Philippines) – Double Degree VISTEC & Aix-Marseille University (2021). Thesis: 'Development and analysis of methods for quantifying nucleation kinetics in agitated crystallizers and microfluidic systems.'

2. Ongoing Double Degree Co-supervision:

- Mr. Alexis Leborgne (France) – Double Degree University of Rouen Normandie & VISTEC. Tentative thesis: 'Transfer of chirality between supramolecular chirality and intrinsic chirality.'

Principal advisor for 20 completed PhD graduates; co-advisor for several additional PhDs. 19 PhD graduates completed 1-year research stays abroad (Australia, Europe, Japan, USA). Currently supervising 3 PhD candidates and 6 postdoctoral researchers.

5. Teaching & Advanced Training

- Graduate-level courses in crystallization engineering and pharmaceutical crystallization, transport phenomena, reaction engineering and thermodynamics
- Advanced lectures on process development and industrial crystallization scale-up
- Training of doctoral candidates in nucleation kinetics and crystallization reactor design

6. Research Output & Impact

Extensive publication record in crystallization science, pharmaceutical solid forms, and nucleation kinetics. International collaborations across Europe, Japan, Australia, and North America. Research has contributed to advancement of industrial deracemization strategies, pharmaceutical separations, and quantitative understanding of crystallization processes.