



Webinar Series 2021: Fast, efficient & reliable problem

A series of six webinars on different topics related to process and product engineering has been organized by PSE for SPEED. The series will consist of the following webinars: 1) 3-days workshop on sustainable chemical (and biochemical) process design; 2) a 4-hours workshop on pure component and mixture properties estimation; 3) a 3 hours workshop on refrigerant design; 4) a 3 hours workshop on different aspects of chemical substitution; 5) a 4 hours workshop on general computer aided chemical product design; 6) a 4 hours workshop on computer aided modelling. See the table below for the date and time (in CET) for the webinars.

Program for Webinar 2: Property Estimation in 4 Steps

The objective of this workshop is to give the participants a view of property estimation in terms of types of properties and their models; when property models are needed and their roles in process-product design and analysis; and how to use the property models through systematic computer aided systems. Properties related to process synthesis, design and analysis, for example, primary properties (such as normal boiling points, normal melting points, critical properties enthalpy of vaporization at boiling point, etc.), secondary properties (such as acentric factor, molar volume, solubility parameters, etc.), functional pure component properties (such as enthalpy, entropy, vapor pressure, etc.) and mixture phase equilibrium properties (fugacity coefficients, activity coefficients and their use in phase equilibrium computations) will be covered. Also, a brief introduction to environmental & safety properties (such as measure of toxicity, octanol-water partition coefficient, exposure limits, etc.) will be covered. In each case, how to define the property estimation problem, how to describe the chemical system and related information, how to select and retrieve the needed property models and their corresponding model parameters and finally, how to estimate the desired properties will be highlighted. In addition, how to verify the models, the parameters and measured data in terms consistency in terms of the chemical system involved, the suite of calculated properties and required properties will be covered in terms of different types of properties. There will be 3 lectures of one of one hour each (including Q&A) and a problem solution session where property estimation in 4 simple steps will be illustrated.

Course Organization

The Webinars are being organized by the PSE for SPEED office in Bangkok, Thailand. All confirmed registered participants will be sent a link to join the Webinars. The time indicated for each lecture includes Q&A after the lecture. The problem solution lectures will include step by step demonstration of selected problem solutions. Selected recorded presentations will also be available to subscribers at the PSE for SPEED YouTube channel. Only Webinar participants will be able to download copies of the presentation slides. There will be Q&A at the end of all lectures and also at the end of the problem sessions.

Please direct all your questions to the PSE for SPEED in Bangkok to Ms. Orakotch Padungwatanaroj (P.orakotch@gmail.com).

Webinar 2: Property Estimation in 4 Steps(27July)

Lecture	Time (CET)*	Topic	Speaker
1	13:00 – 14:00	o Introduction to Properties – when, what, why, & how o Modelling and estimation of primary & secondary properties	Rafiqul Gani
2	14:00 – 15:00	Models and calculation procedures for phase equilibrium and related properties	Rafiqul Gani
3	15:00 – 16:00	Fundamentals of property model applications	John O’Connell (guest speaker)
4	16:00 – 17:00	Problem solution using ProCAPE (property estimation in 4 steps) software tool; Q&A	Anjan Tula; Orakotch Padungwatanaroj; Kornkanok Udomwong

***The change in time (start time is now 13:00 CET)**

Next PSE for SPEED Webinar on refrigerant synthesis, design and verification (16 August)