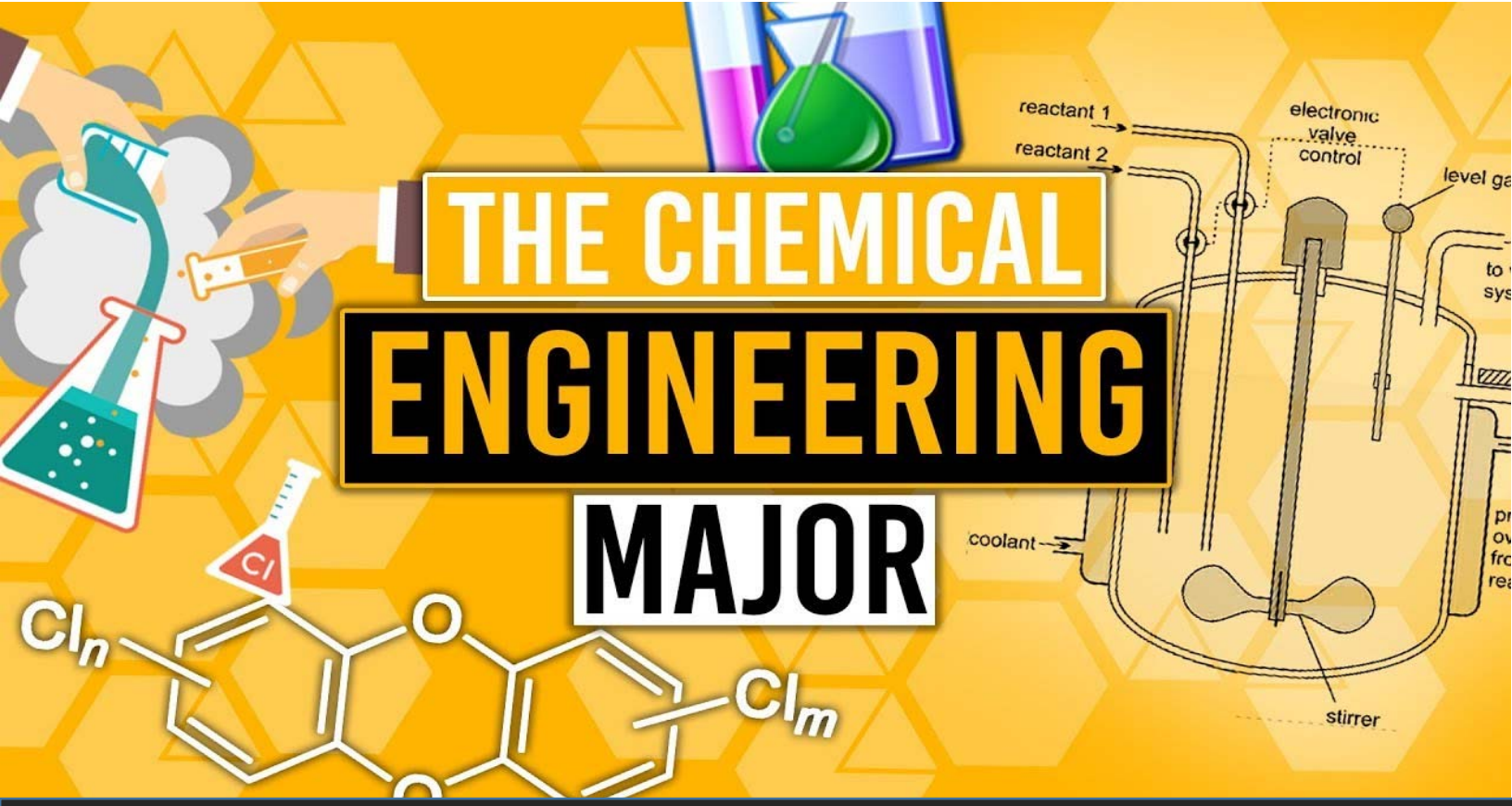

Field Production Optimization Using Agent Based Simulation

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Field Production Optimization Using Agent Based Simulation

Introduction:

As the complexities of real life systems increase so has to increase our understanding of them. Issues that are regularly arising in oil and gas exploration, production and transportation industries must be optimized in order to achieve increase in productivity and efficiency. As the companies try to find ways to increase output and reduce the costs they go into the multitude of projects, which in turn can slow down or even interrupt the system before they go on track or are canceled.

In order to avoid real life tests that can cost the companies enormous amounts of money, Agent Based Simulation modeling ensures effective change implementation by enabling analysis, optimization, and experimentation in an environment that can fully capture the details of operations in risk free environment, companies can implement and analyze changes without interruption in production, the problems and risks can be identified and addressed in the beginning of the project, before they appear in real life implementation.

Training Objectives

By attending this PetroKnowledge training course delegates will be able to make a substantial, positive impact on the Field Production Optimization best practices within their organization, more specifically:

- Provide a step-by-step guide to Agent Based Simulation techniques and software available
- Understand the ways to simulate entire processes and update them using real life data
- Learn Agent-based, system dynamic, and discrete event modeling
- Acquire the knowledge of AnyLogic simulation software for process analysis and optimization
- Implementation of the optimum values of parameters in the production system
- Get the hands-on examples already implemented, their experiences and limitations

Target Audience

This PetroKnowledge training course is designed for all professionals working in the field of data analysis, oil and gas exploration, extraction, project management in oil and gas, field development and petroleum engineering.

This training course is suitable to a wide range of professionals but will greatly benefit:

- Petroleum engineers
- Data Scientists
- Project managers
- Senior and Middle Managers
- Optimization professionals
- FEED engineers
- Board level executives and non-executives
- Consultants in Data Science, Optimization and Petroleum Engineering

Daily Agenda

Topics to be covered:

Amongst a wide range of valuable topics, the following will be prioritised:

- Petroleum production optimization techniques and new developments regarding Big Data use
- Differences between Agent Based, System Dynamic and Discrete Event Modelling
- Use of AnyLogic software that incorporates and combines all simulation techniques
- Using AnyLogic simulation software for process analysis and optimization
- Implementation of the optimum values of parameters in the production system
- How to harness the power of data acquisition and process simulation for production planning
- Incorporate the behaviour of machines, fluids and people in the simulation
- How to incorporate worker performance into the simulation models
- Define possible interruptions and evaluate the mitigation scenarios
- Steps to apply simulation into FEED engineering through the whole project life