



## SEMINAR

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### **Two Catalysts, One Reactor, Better Polyethylene**

Control of branching and molecular weight distribution in polyethylene produces materials ranging from crystalline to amorphous, brittle to elastic, highly viscous to free-flowing. Some applications benefit from bimodal compositions, which are conventionally generated using a series of two reactors. However, an alternative approach of using two catalysts in a single reactor can provide additional benefits, including (1) more intimate mixing of polymer modes, (2) independent molecular weight distributions, (3) chain shuttling to produce multi-block copolymers. Due to the challenges and complexity of perfecting catalyst kinetic profiles, only two dual-catalyst systems are established commercially, PRODIGY™ BMC and INFUSE™ technologies. This presentation briefly describes some of the author's contributions to the discovery and development of each.

**On Tuesday 10<sup>th</sup> May 2022**

**3:00 pm – Room E**

**Department of Chemistry, Biology and Biotechnology – Via Elce di Sotto 8**



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AMIS project